

Supplementary Materials: Communicative Efficiency or Iconic Learning: Do Acquisition and Communicative Pressures Interact to Shape Colour-Naming Systems?

Balint Gyevnar ^{1,†,*} , Gautier Dagan ^{1,†} , Coleman Haley ^{1,†} , Shangmin Guo ^{1,†}  and Frank Mollica ¹ 

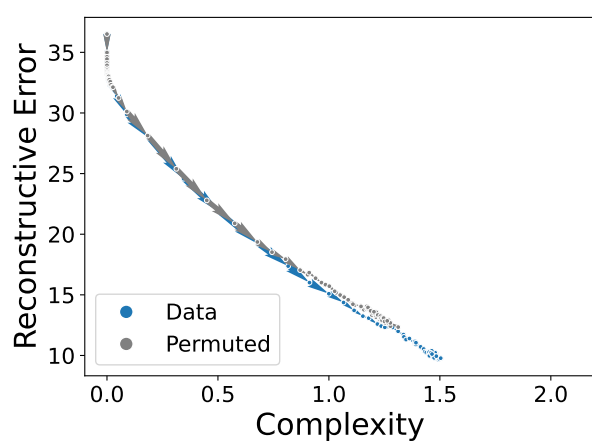
The purpose of this Supplemental Material is to enumerate our results across all attested languages in the World Colour Survey [1].

1. Results for All Languages

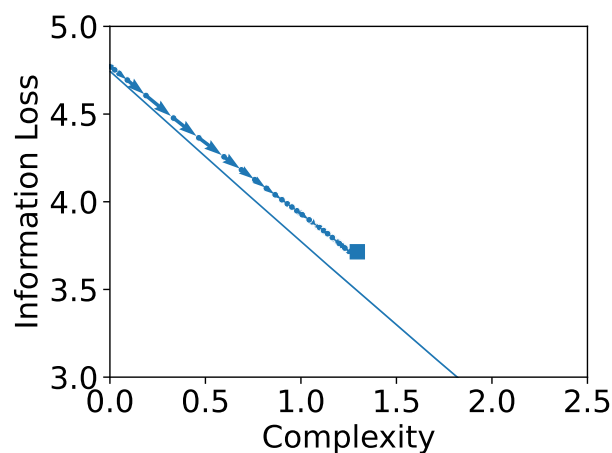
We here present our results for every attested language in the World Colour Survey. Each subsection corresponds to a language in the WCS, and for each language we plot the following figures:

- The learning trajectory for the attested language and the learning trajectory for the most sub-optimal permuted variant.
- The learning trajectory mapped onto the communicative efficiency space.
- Mode maps for the adult-like colour naming system, the learnt colour naming system, and the *learnt* sub-optimal colour naming system.
- The colour topology of the learnt SOM model's cells with the corresponding most frequent colour term in each cell.
- The evolution of colour naming accuracy for the attested language and the most sub-optimal permuted variant.

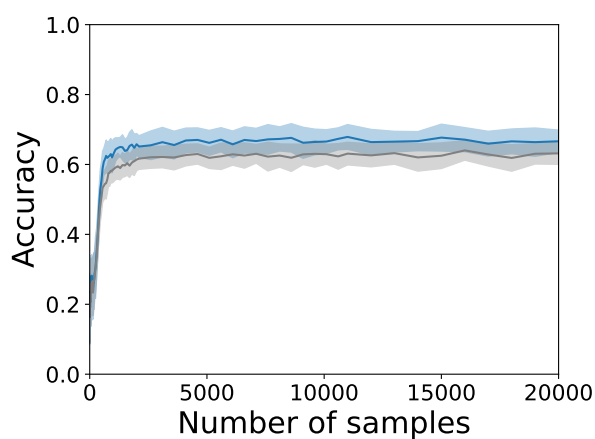
1.1. Abidji; $|\mathcal{W}| = 9$



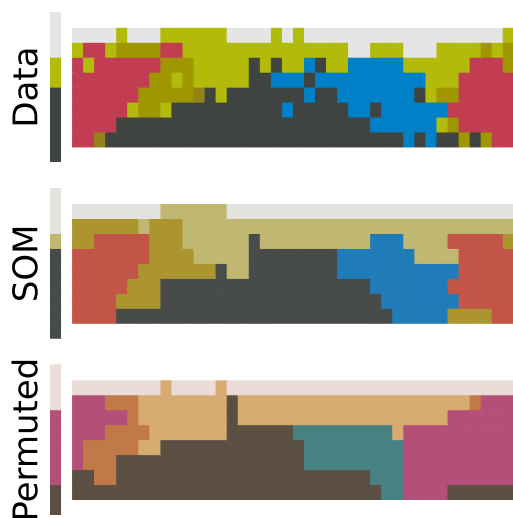
(a) Learning Space



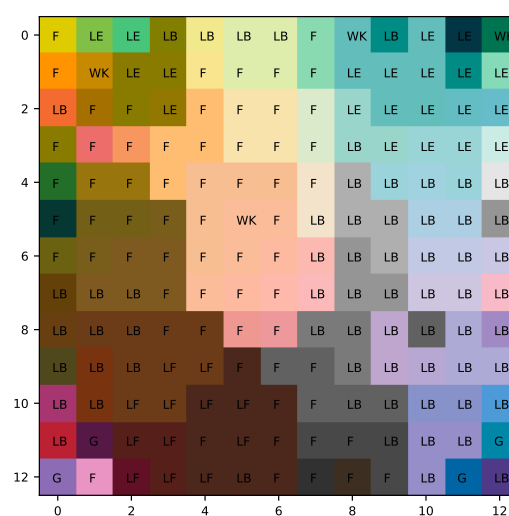
(b) Communicative Space



(c) Accuracy

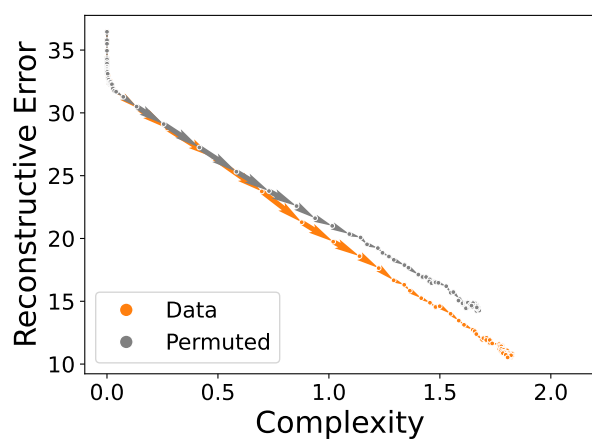


(d) Mode Maps

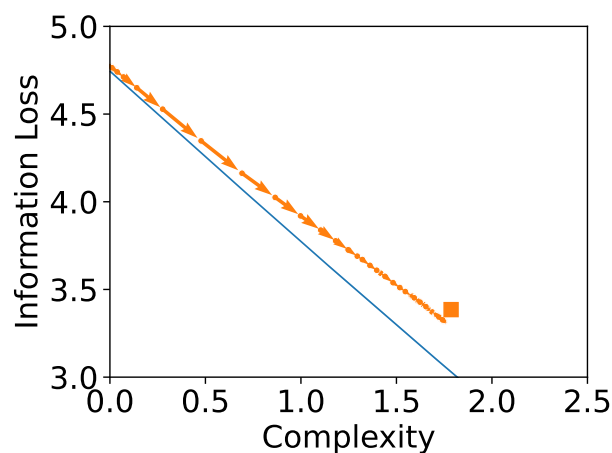


(e) Learnt SOM Cells

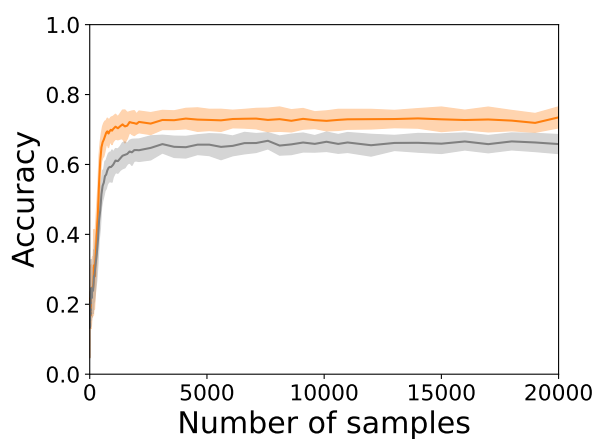
1.2. Agarabi; $|\mathcal{W}| = 28$



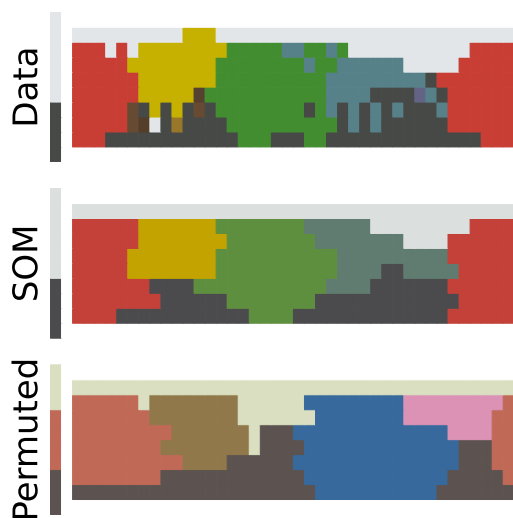
(a) Learning Space



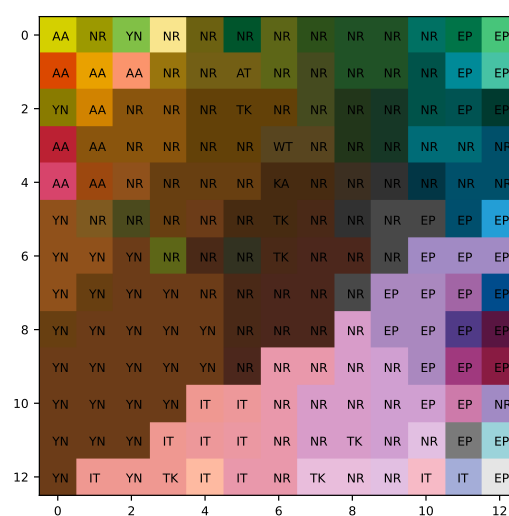
(b) Communicative Space



(c) Accuracy

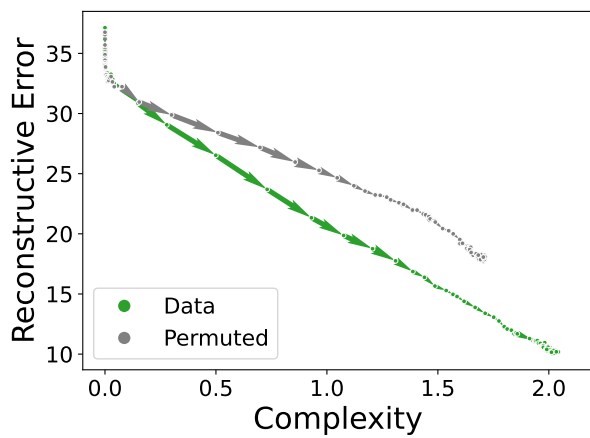


(d) Mode Maps

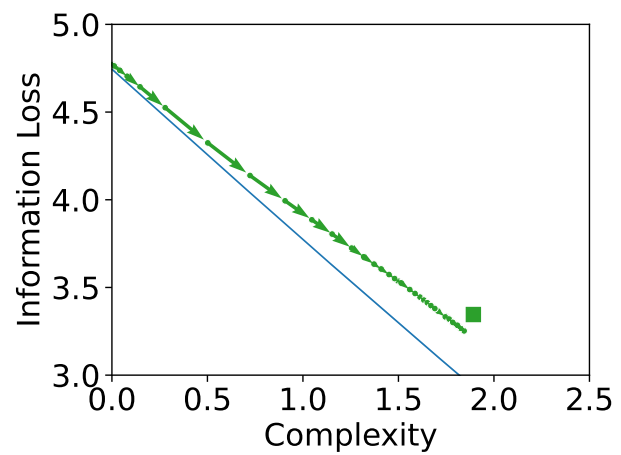


(e) Learnt SOM Cells

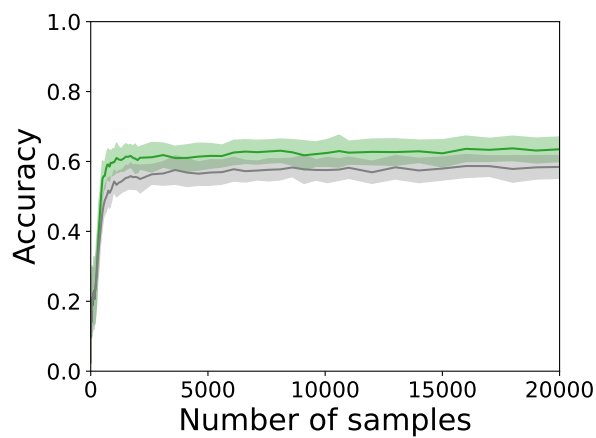
1.3. Casiguran Agta; $|\mathcal{W}| = 71$



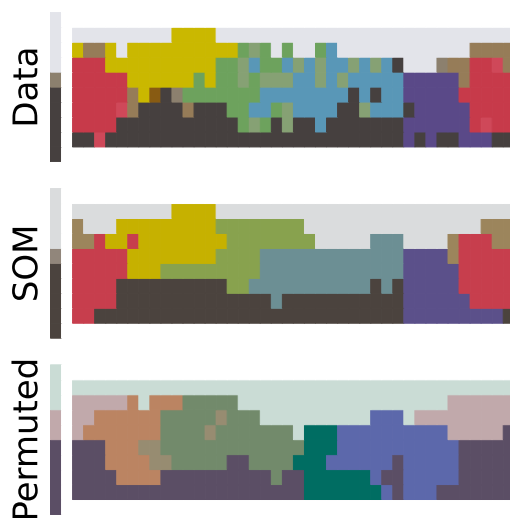
(a) Learning Space



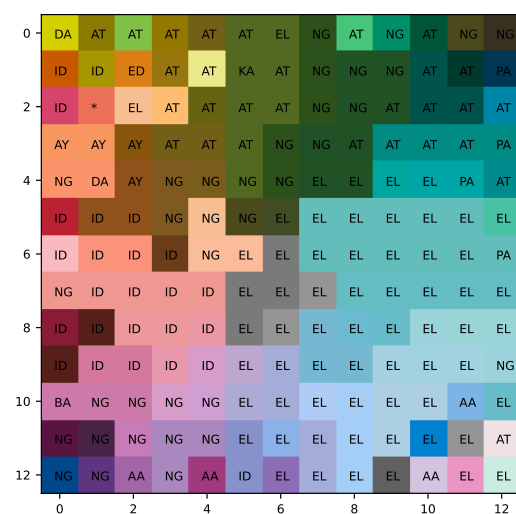
(b) Communicative Space



(c) Accuracy

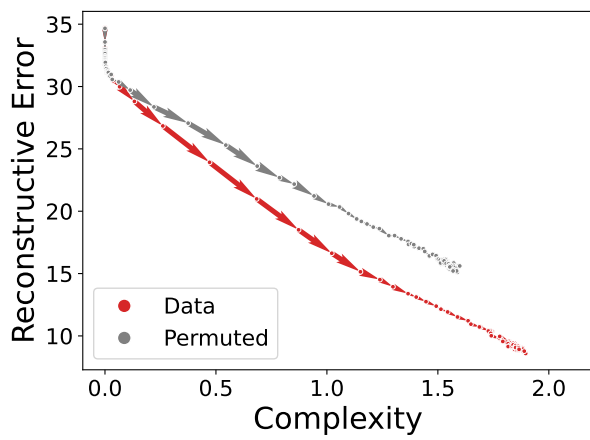


(d) Mode Maps

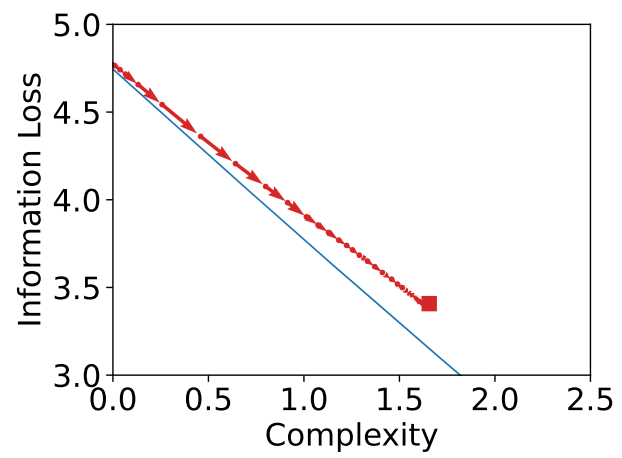


(e) Learnt SOM Cells

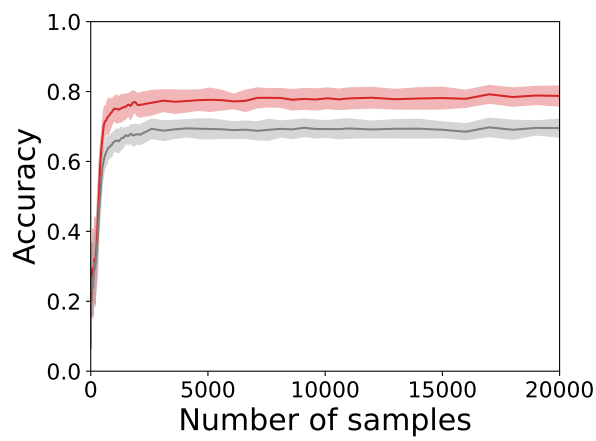
1.4. Aguacateco; $|\mathcal{W}| = 25$



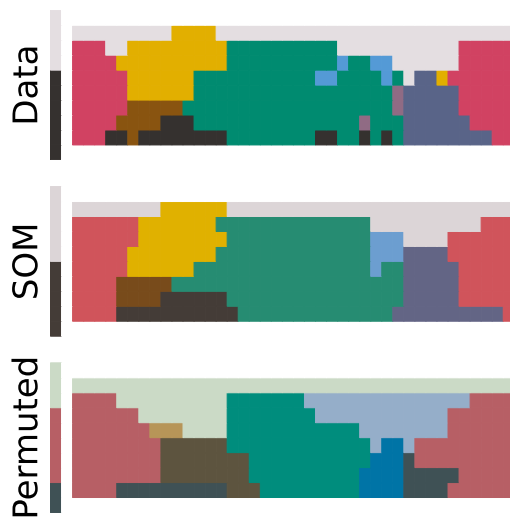
(a) Learning Space



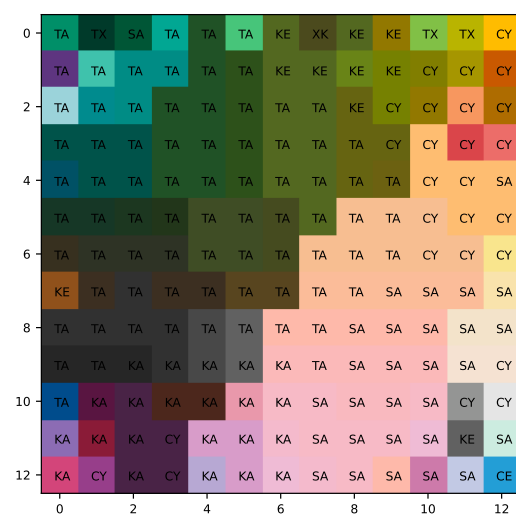
(b) Communicative Space



(c) Accuracy

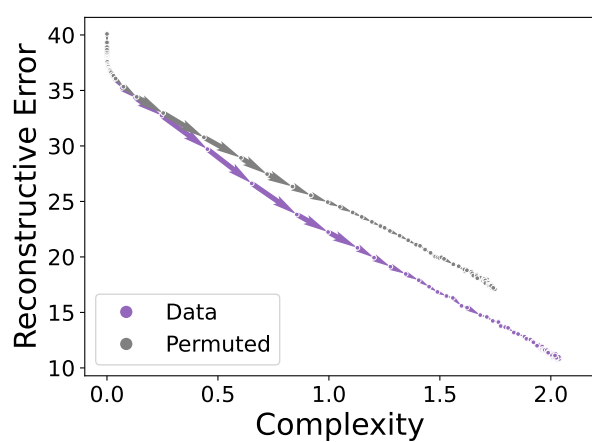


(d) Mode Maps

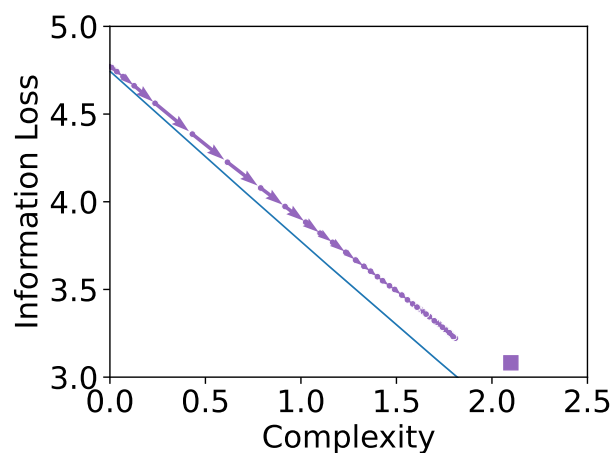


(e) Learnt SOM Cells

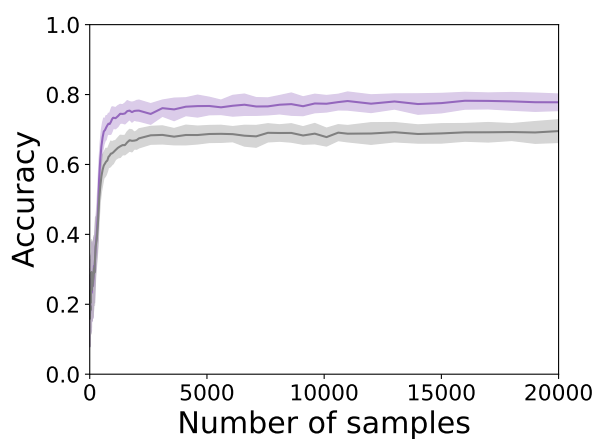
1.5. Amarakaeri; $|\mathcal{W}| = 9$



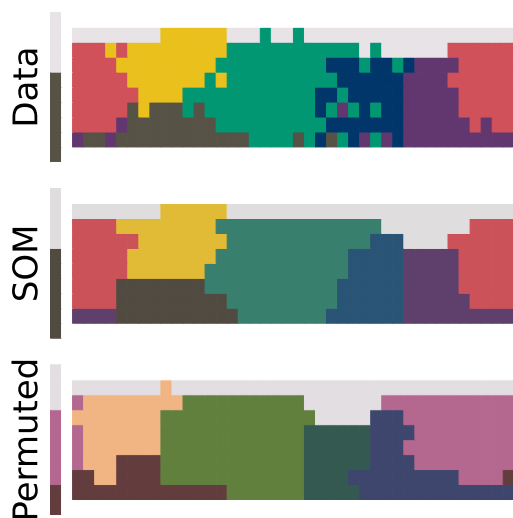
(a) Learning Space



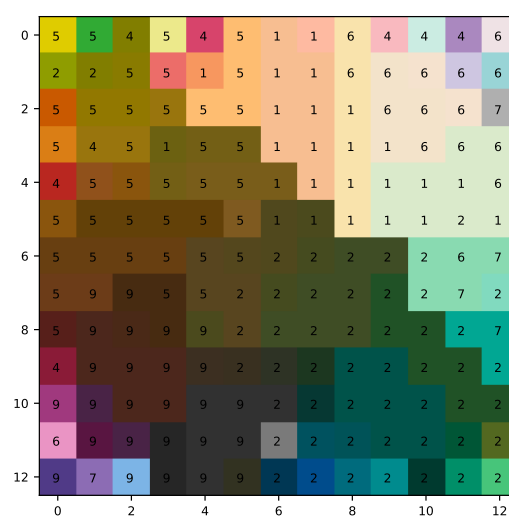
(b) Communicative Space



(c) Accuracy

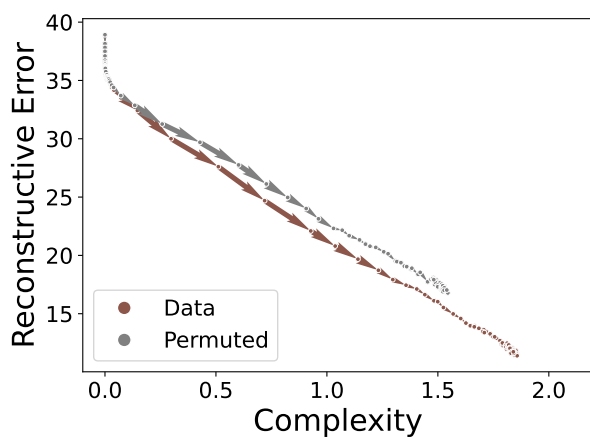


(d) Mode Maps

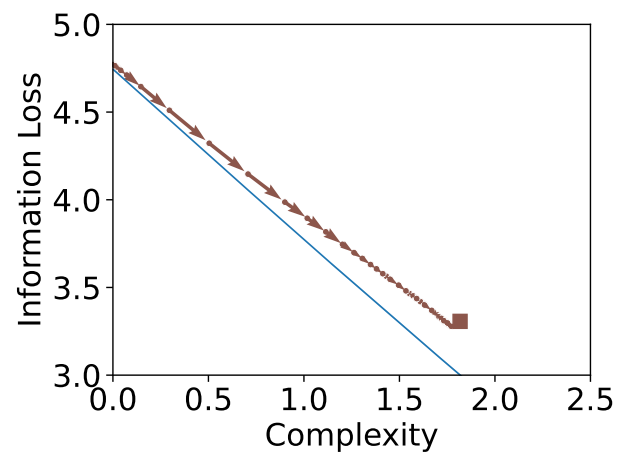


(e) Learnt SOM Cells

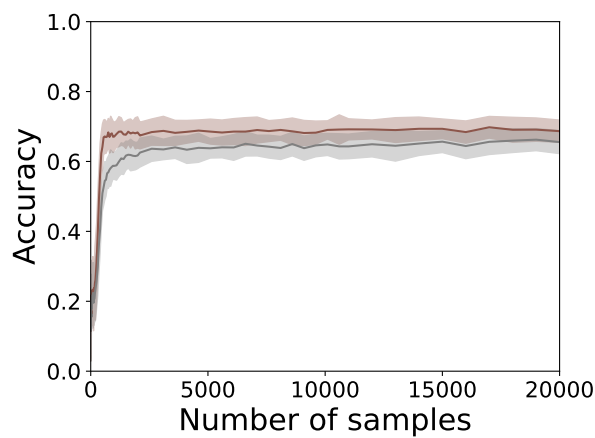
1.6. Ampeeli; $|\mathcal{W}| = 42$



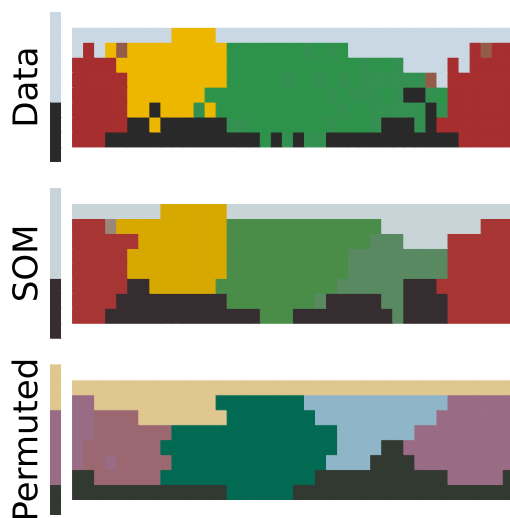
(a) Learning Space



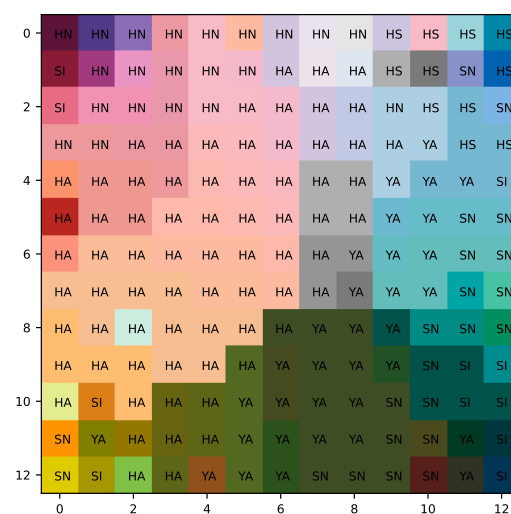
(b) Communicative Space



(c) Accuracy

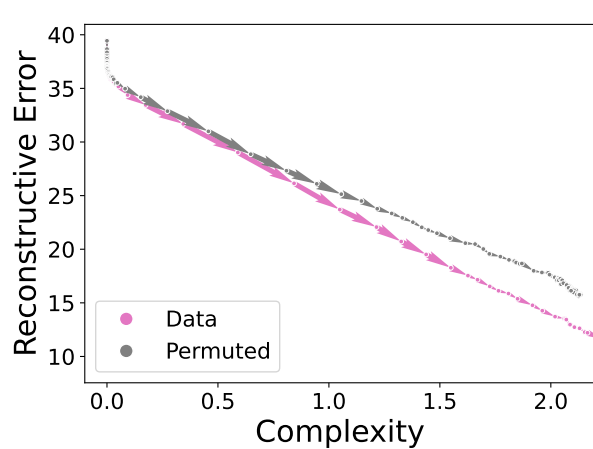


(d) Mode Maps

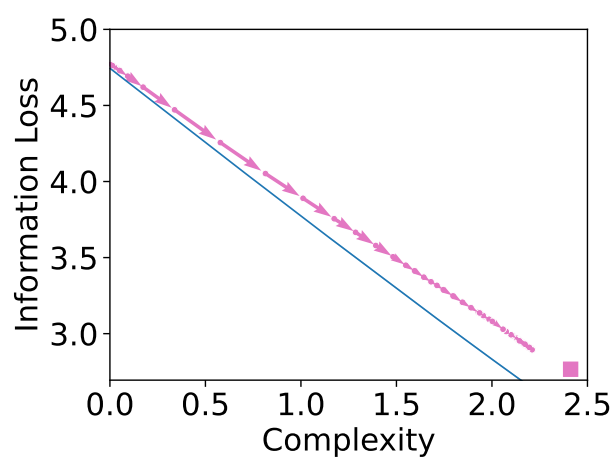


(e) Learnt SOM Cells

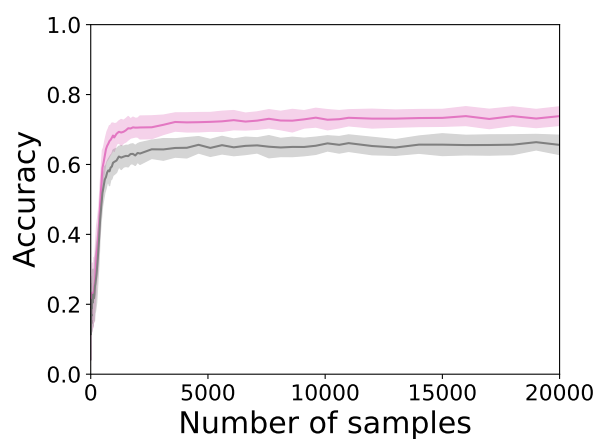
1.7. Amuzgo; $|\mathcal{W}| = 21$



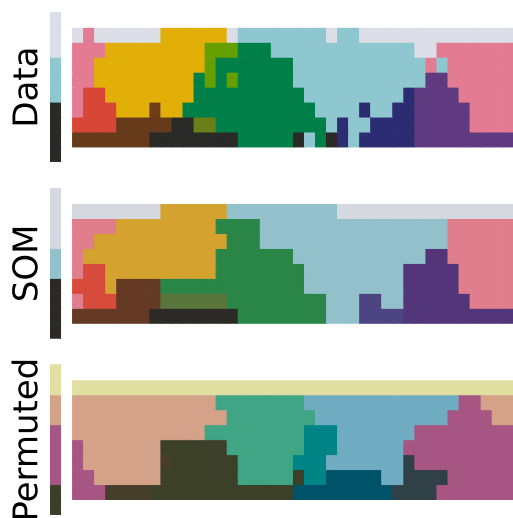
(a) Learning Space



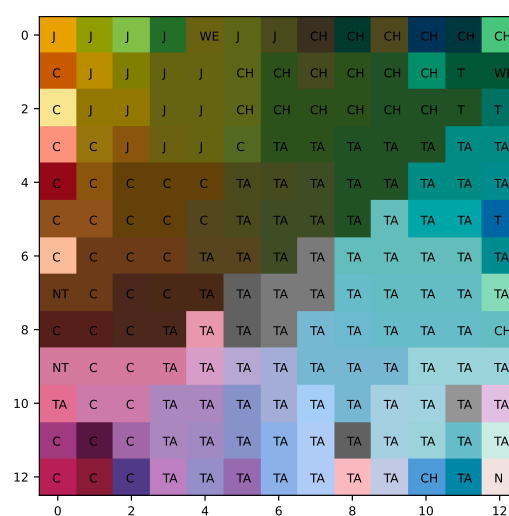
(b) Communicative Space



(c) Accuracy

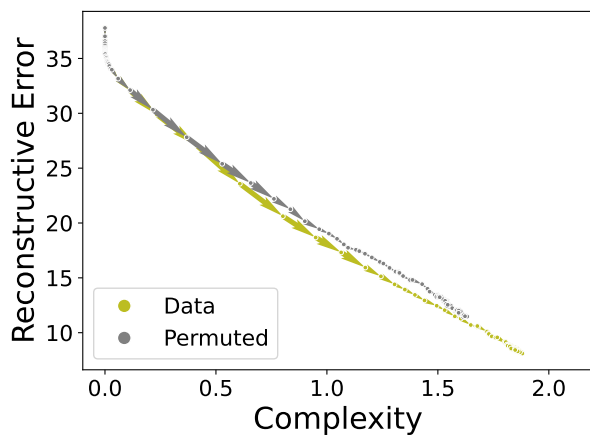


(d) Mode Maps

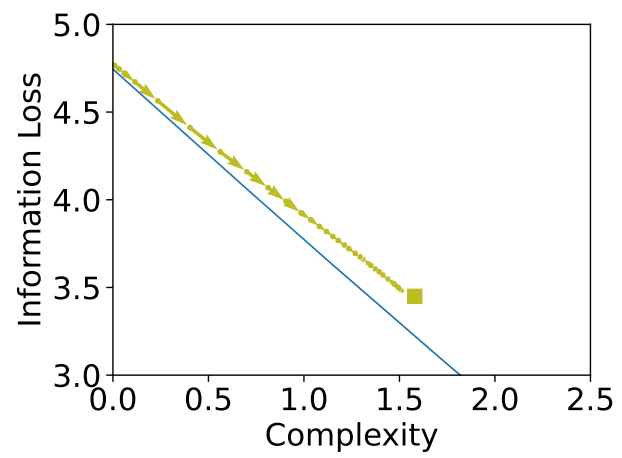


(e) Learnt SOM Cells

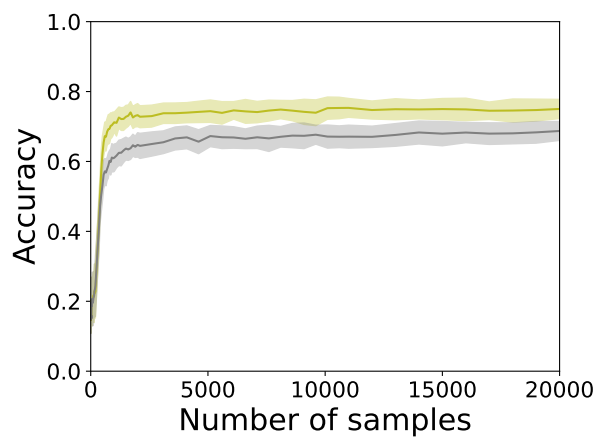
1.8. Angaatiha; $|\mathcal{W}| = 16$



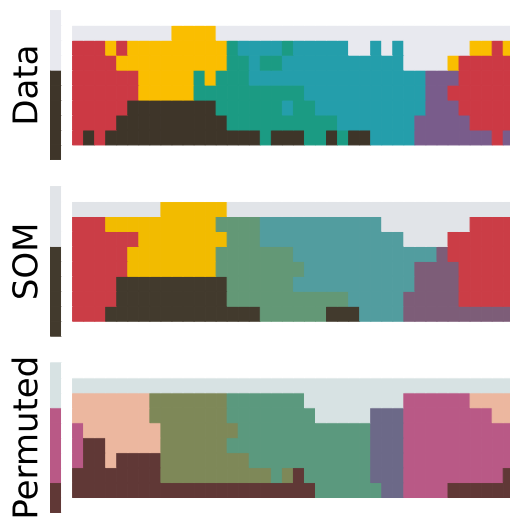
(a) Learning Space



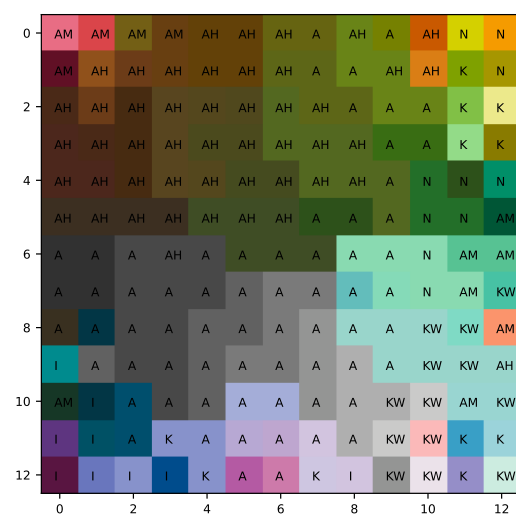
(b) Communicative Space



(c) Accuracy

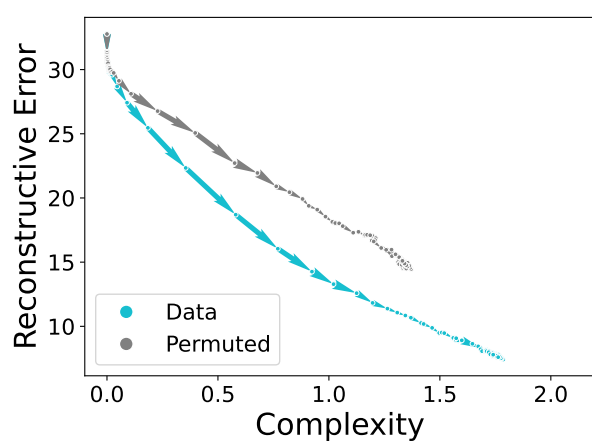


(d) Mode Maps

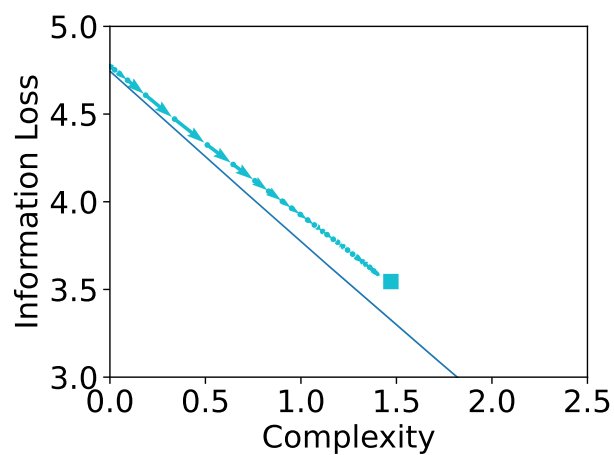


(e) Learnt SOM Cells

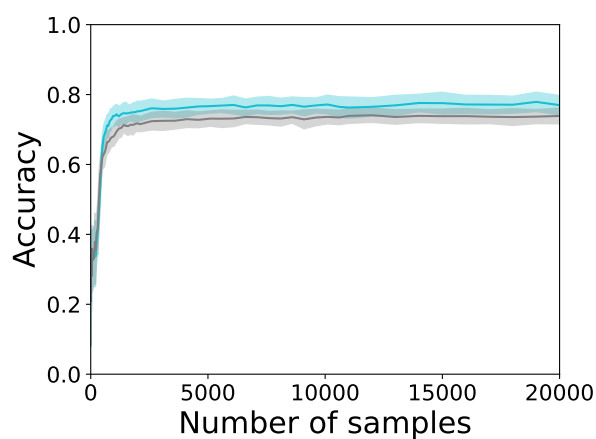
1.9. Apinaye; $|\mathcal{W}| = 13$



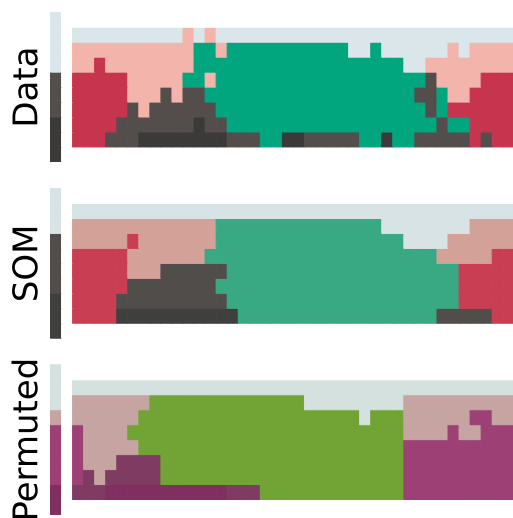
(a) Learning Space



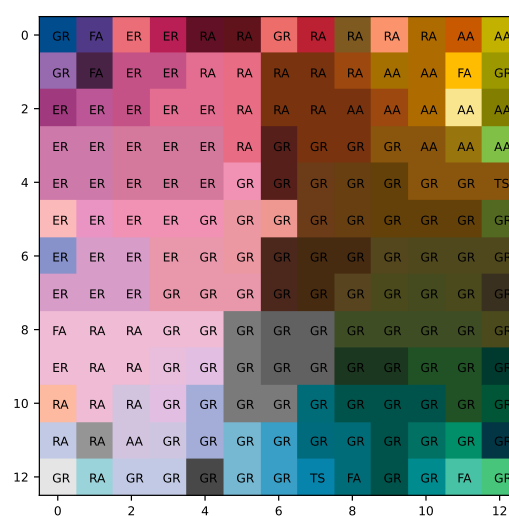
(b) Communicative Space



(c) Accuracy

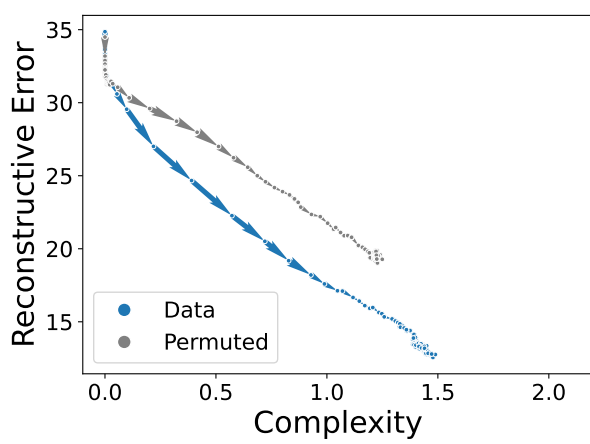


(d) Mode Maps

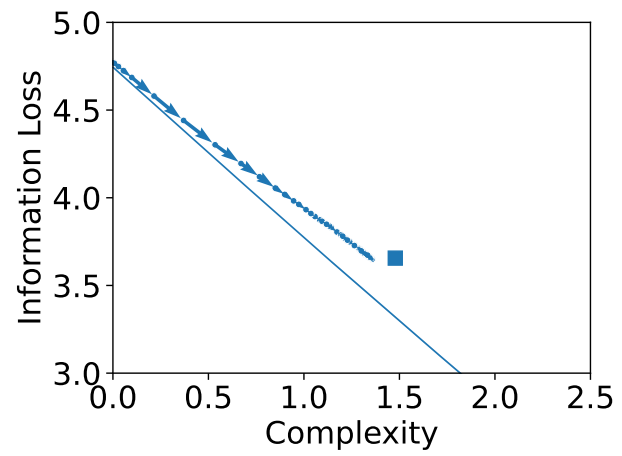


(e) Learnt SOM Cells

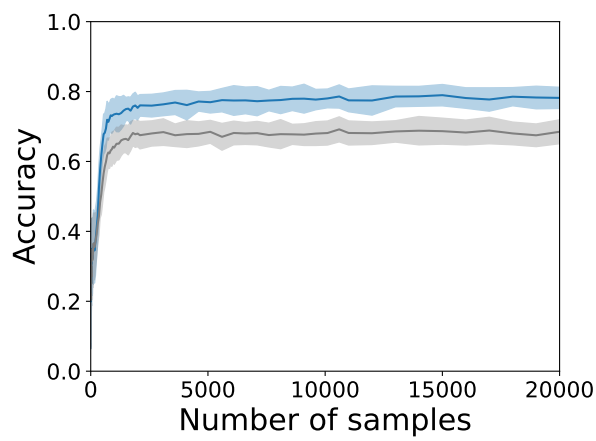
1.10. Arabela; $|\mathcal{W}| = 18$



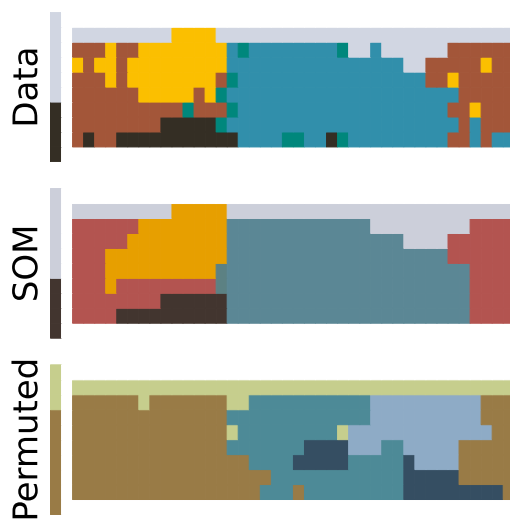
(a) Learning Space



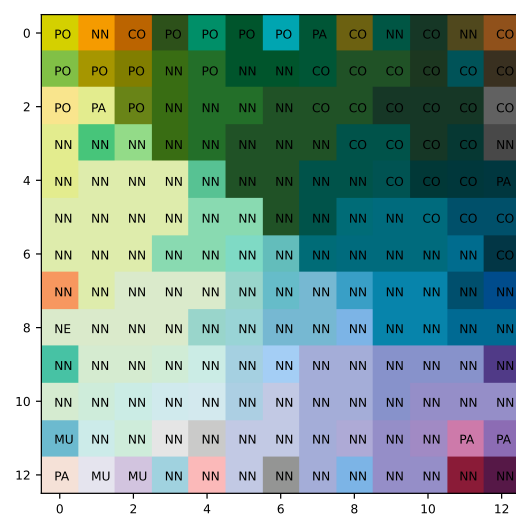
(b) Communicative Space



(c) Accuracy

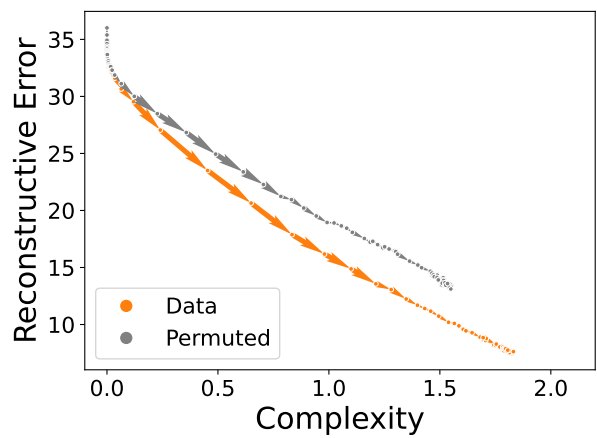


(d) Mode Maps

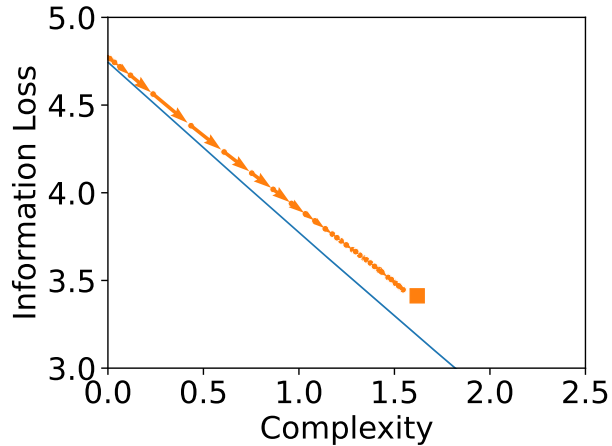


(e) Learnt SOM Cells

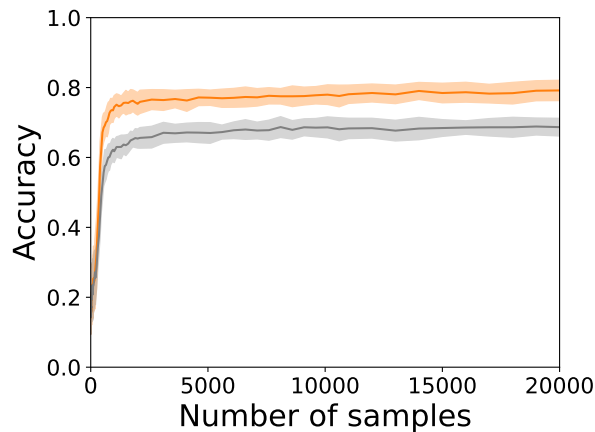
1.11. Bahinemo; $|\mathcal{W}| = 11$



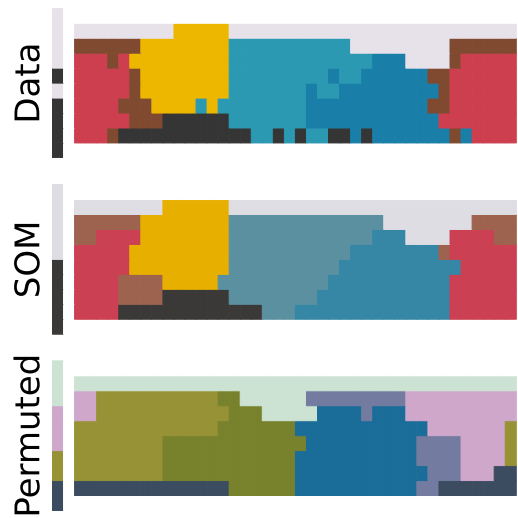
(a) Learning Space



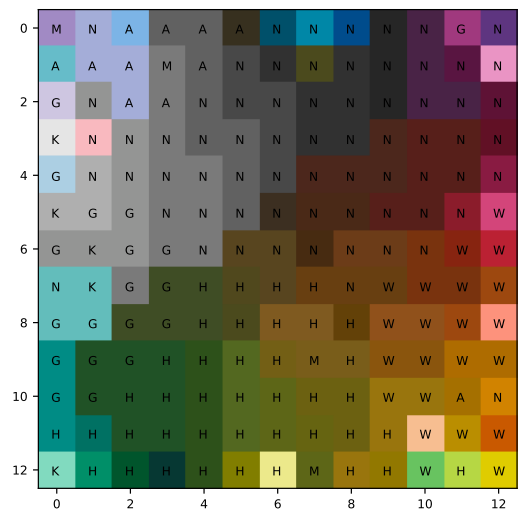
(b) Communicative Space



(c) Accuracy

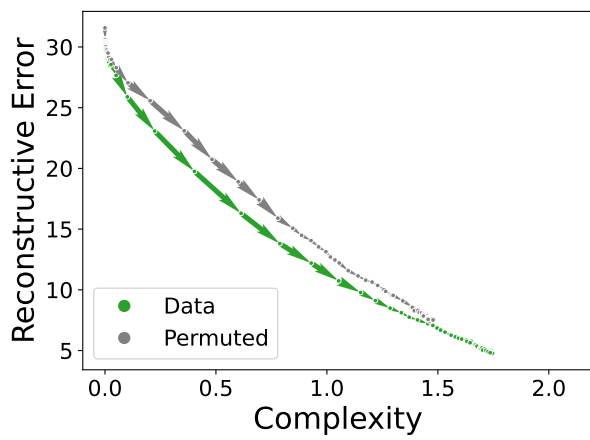


(d) Mode Maps

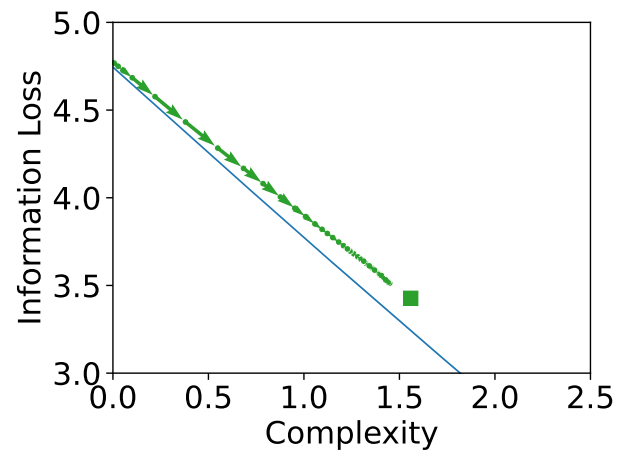


(e) Learnt SOM Cells

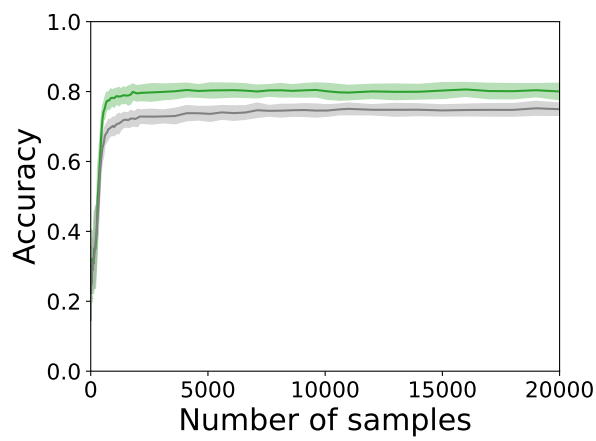
1.12. Bauzi; $|\mathcal{W}| = 7$



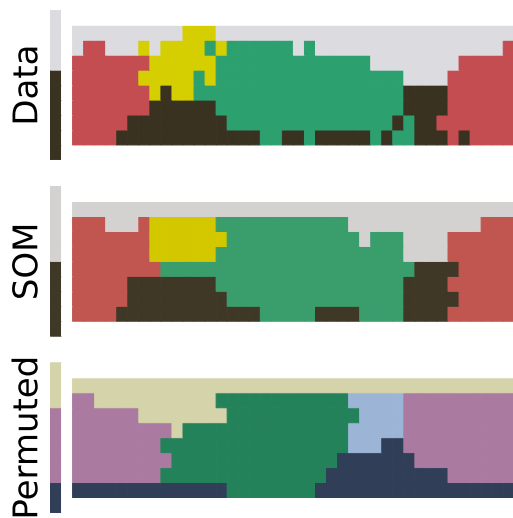
(a) Learning Space



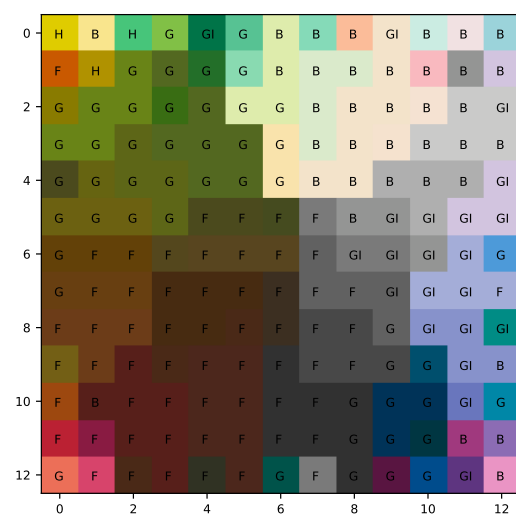
(b) Communicative Space



(c) Accuracy

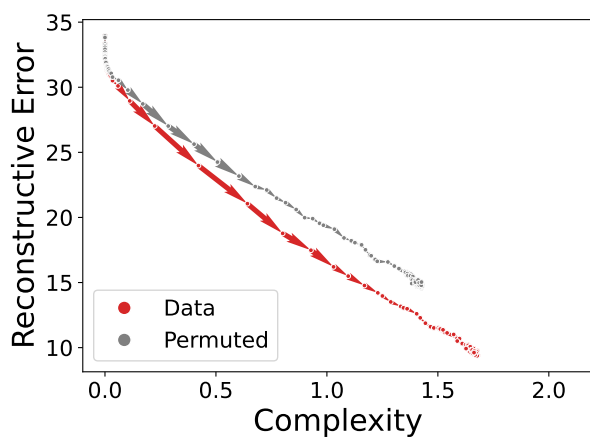


(d) Mode Maps

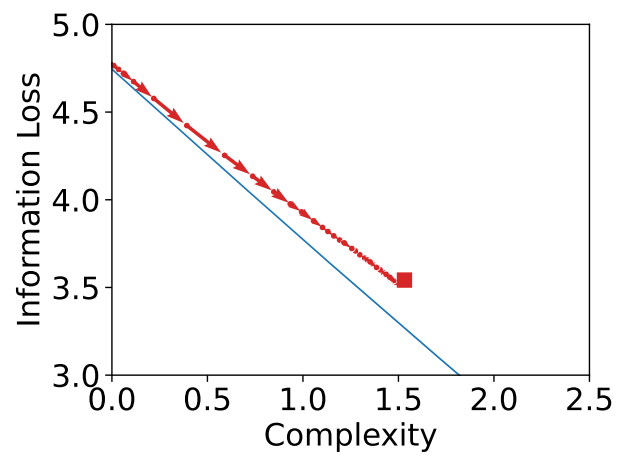


(e) Learnt SOM Cells

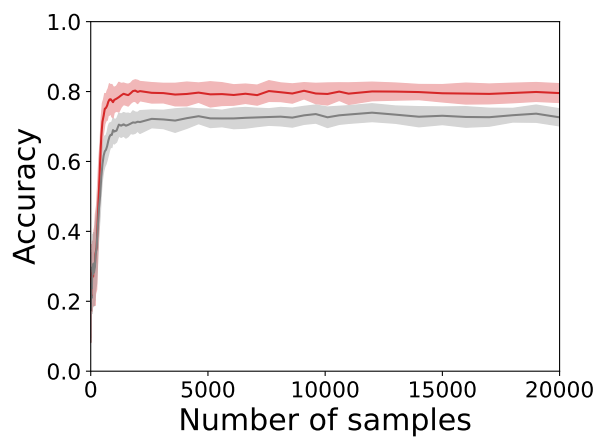
1.13. Berik; $|\mathcal{W}| = 30$



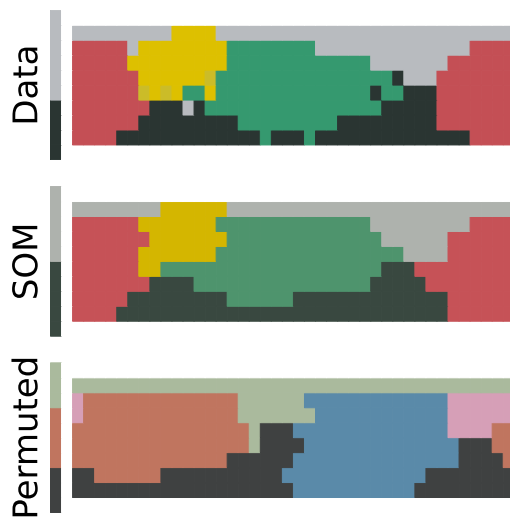
(a) Learning Space



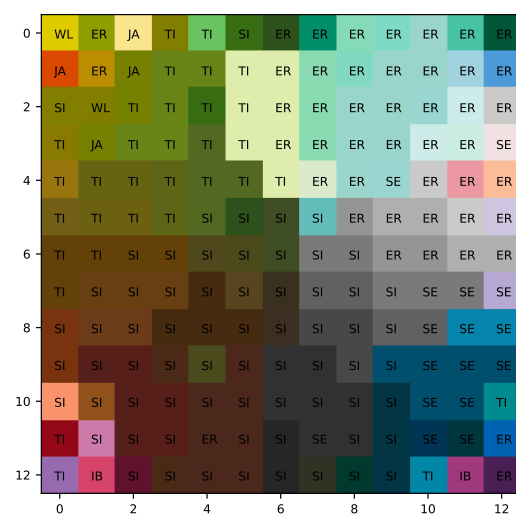
(b) Communicative Space



(c) Accuracy

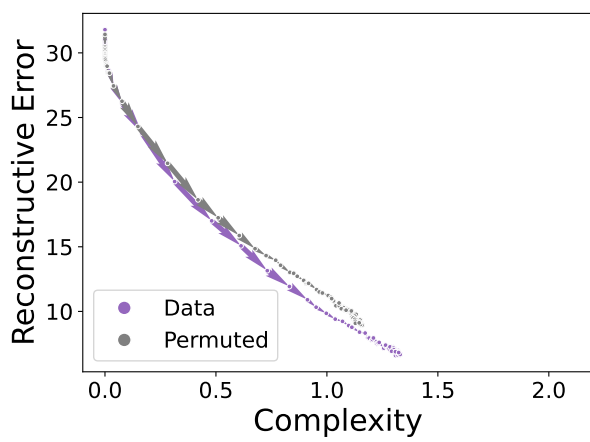


(d) Mode Maps

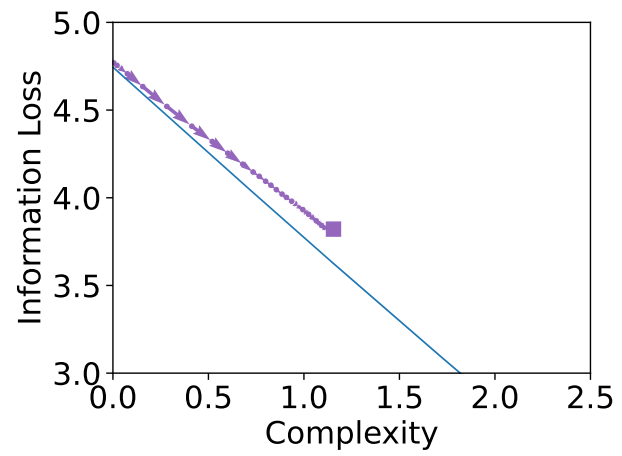


(e) Learnt SOM Cells

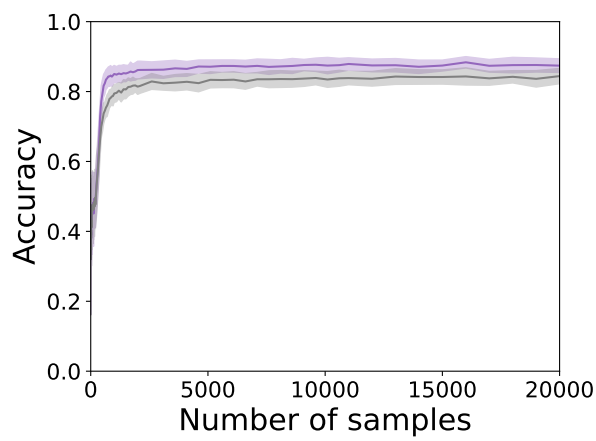
1.14. Bete; $|\mathcal{W}| = 23$



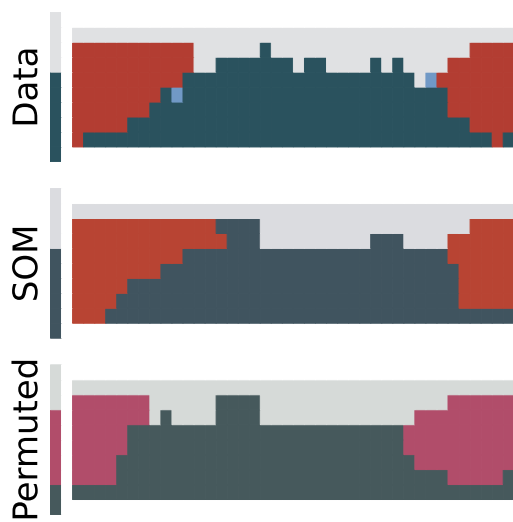
(a) Learning Space



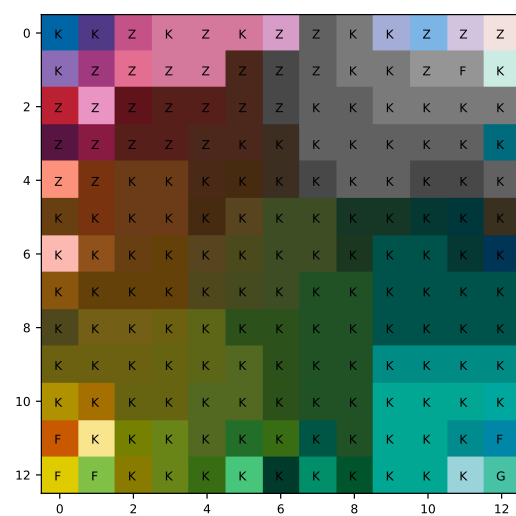
(b) Communicative Space



(c) Accuracy

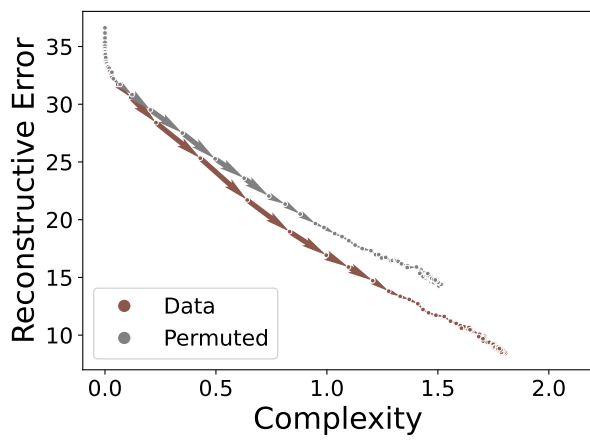


(d) Mode Maps

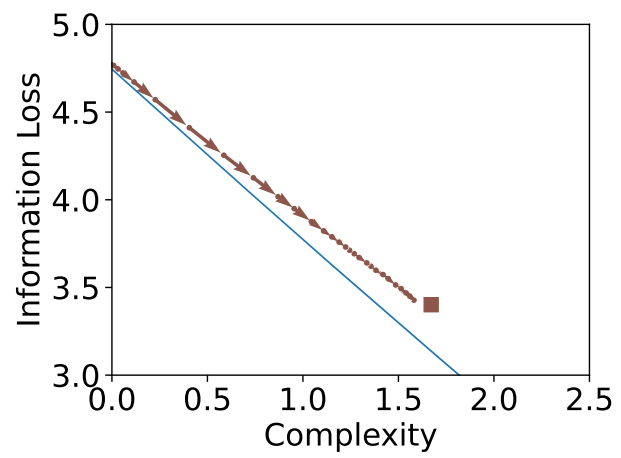


(e) Learnt SOM Cells

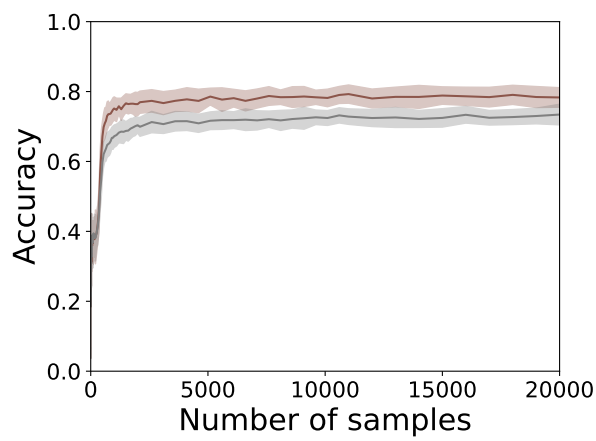
1.15. Bhili; $|\mathcal{W}| = 15$



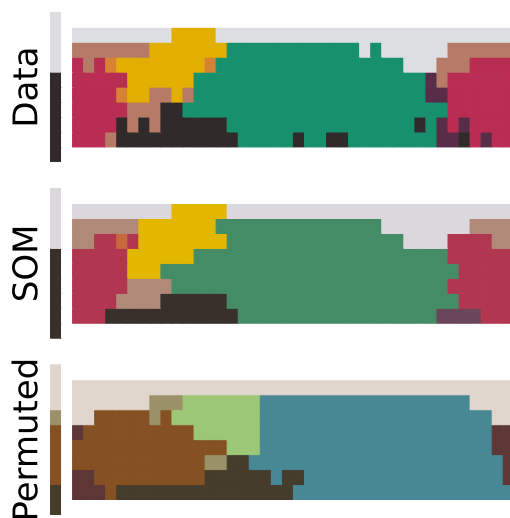
(a) Learning Space



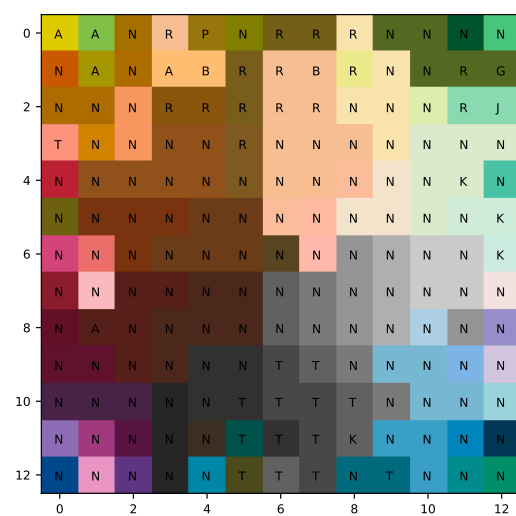
(b) Communicative Space



(c) Accuracy

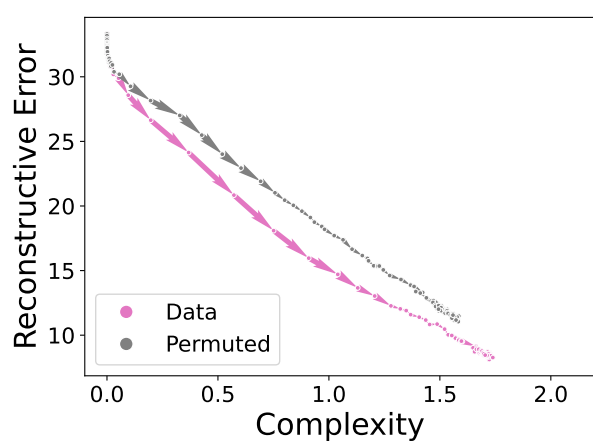


(d) Mode Maps

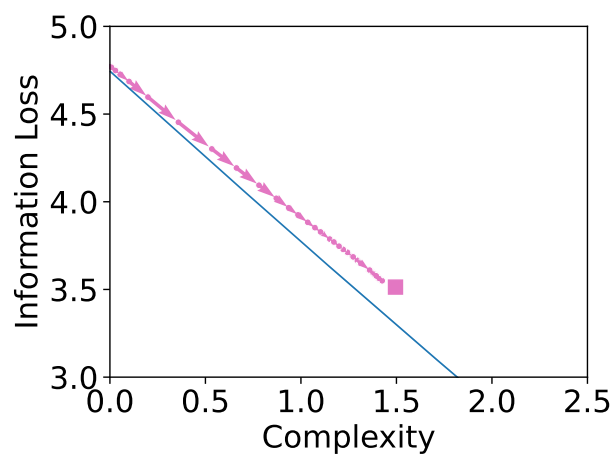


(e) Learnt SOM Cells

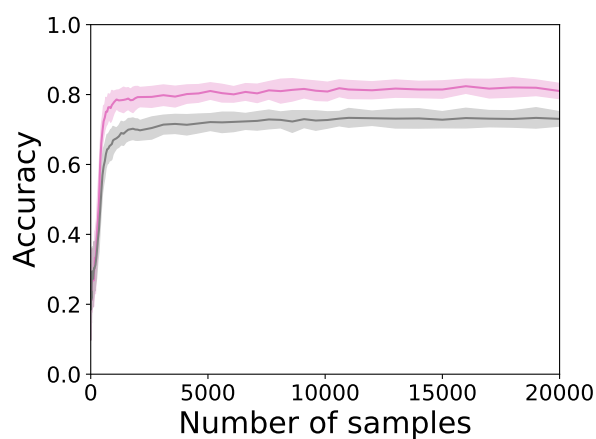
1.16. Buglere; $|\mathcal{W}| = 14$



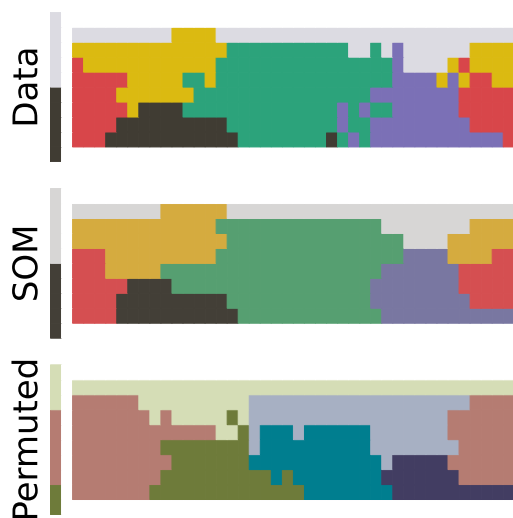
(a) Learning Space



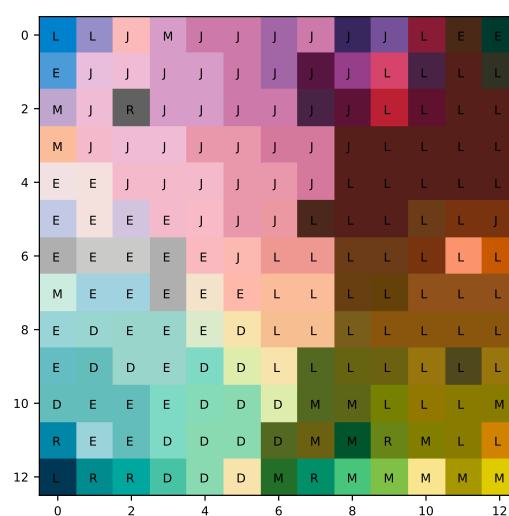
(b) Communicative Space



(c) Accuracy

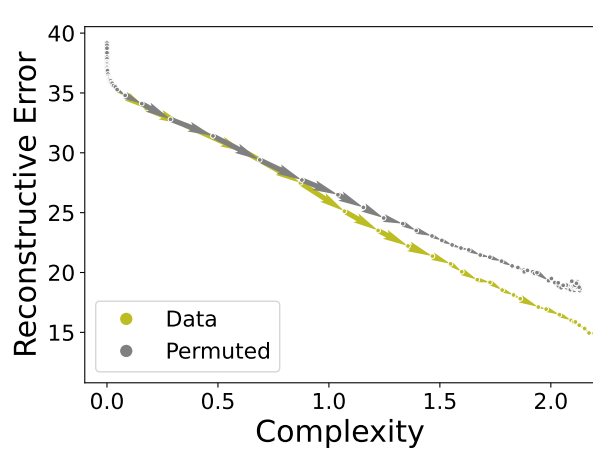


(d) Mode Maps

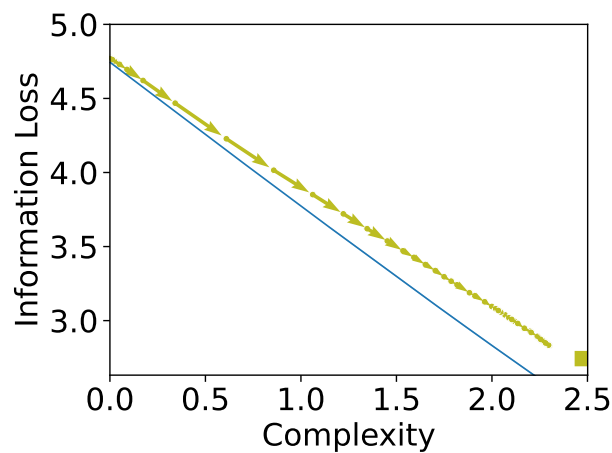


(e) Learnt SOM Cells

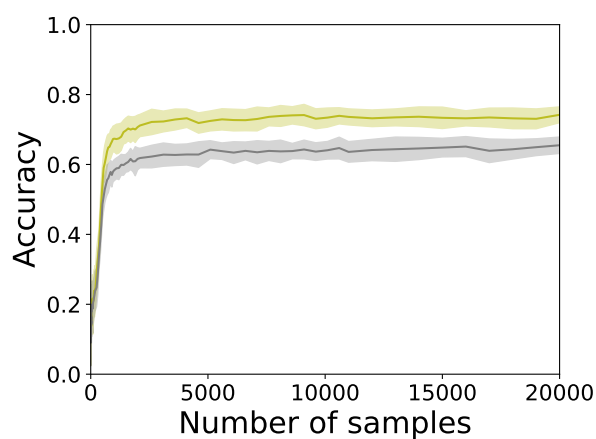
1.17. *Cakchiquel*; $|\mathcal{W}| = 28$



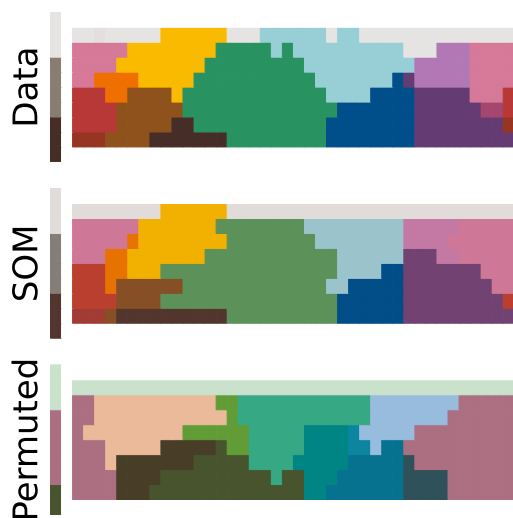
(a) Learning Space



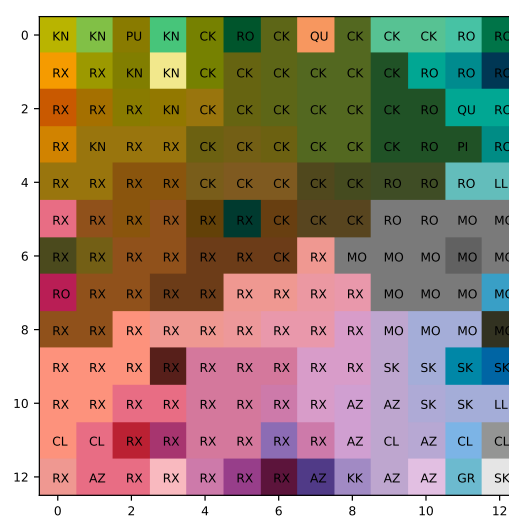
(b) Communicative Space



(c) Accuracy

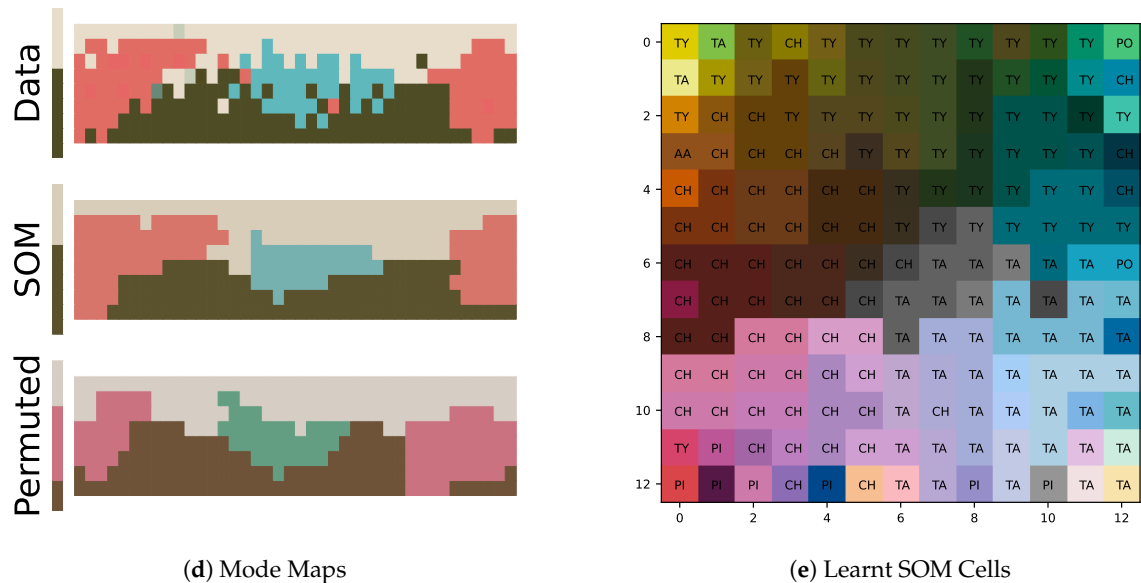
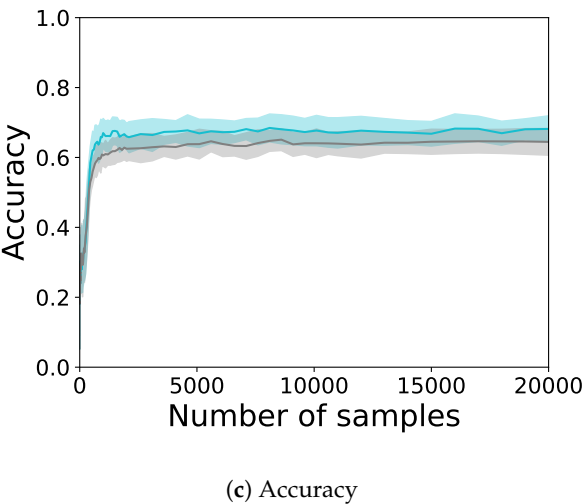
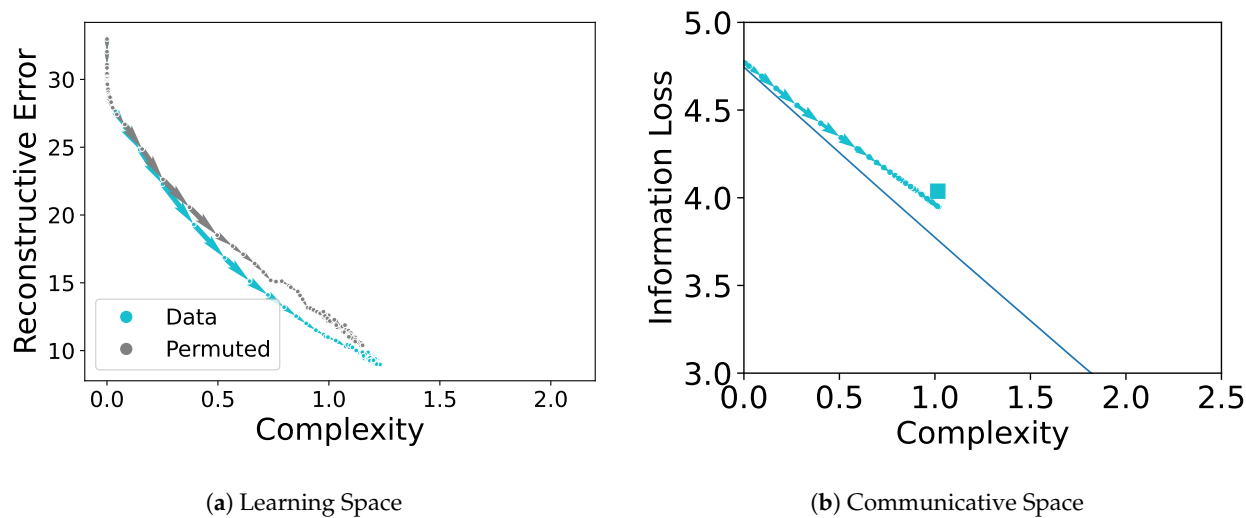


(d) Mode Maps

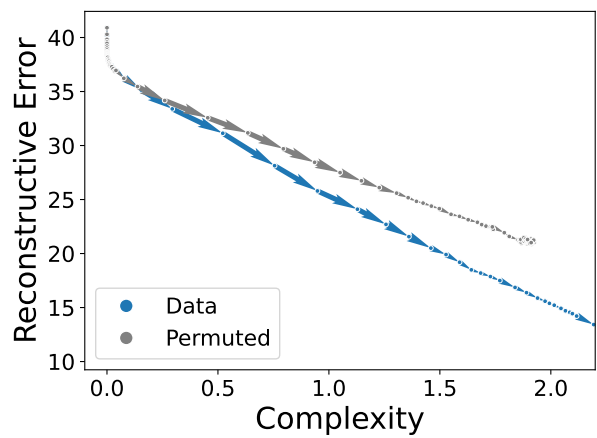


(e) Learnt SOM Cells

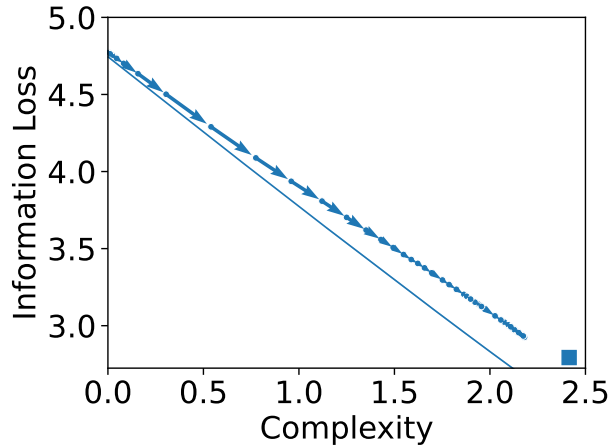
1.18. Ucayali Campa; $|\mathcal{W}| = 17$



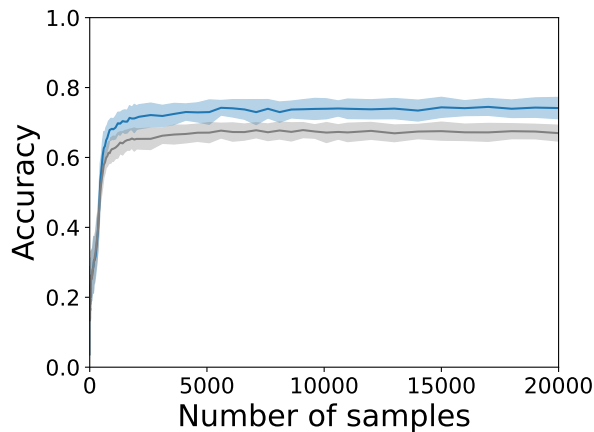
1.19. Camsa; $|\mathcal{W}| = 31$



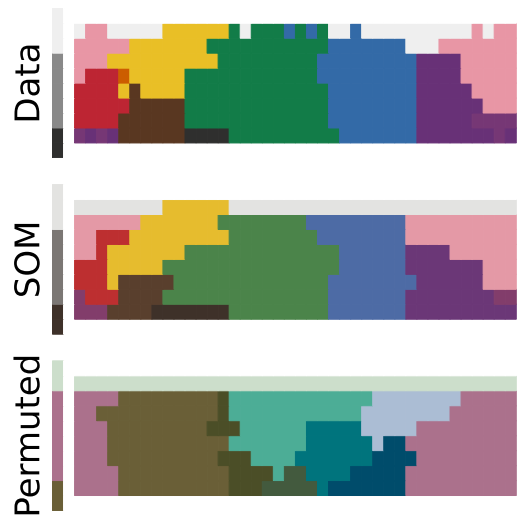
(a) Learning Space



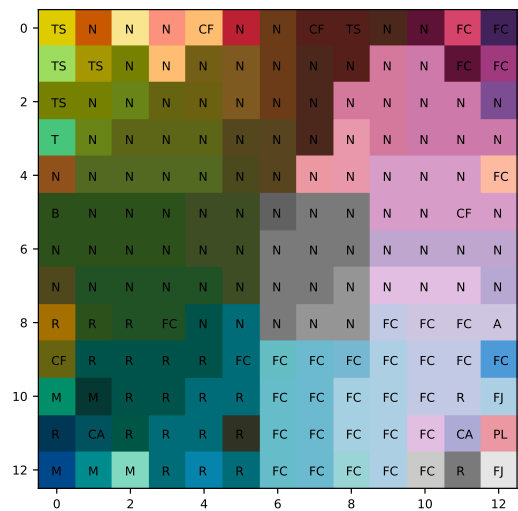
(b) Communicative Space



(c) Accuracy

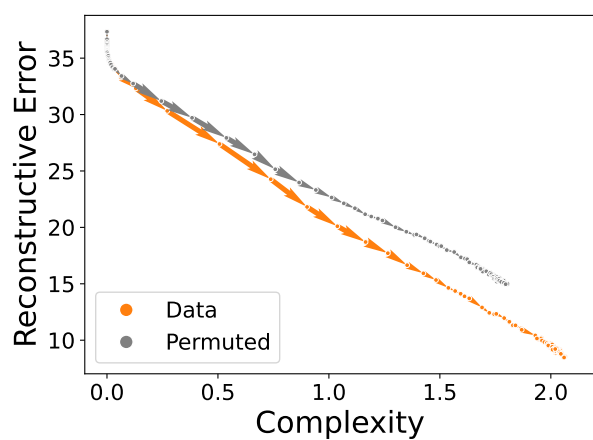


(d) Mode Maps

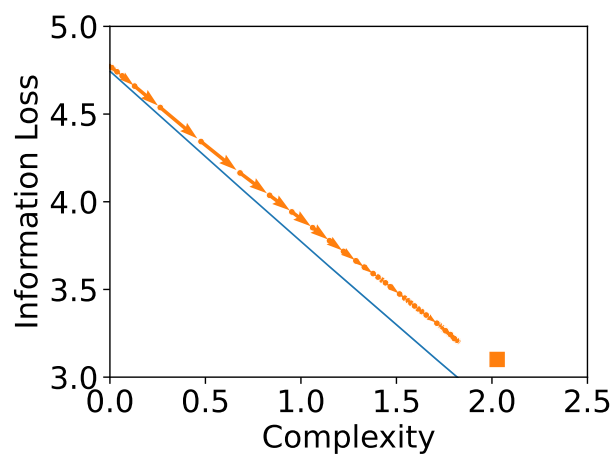


(e) Learnt SOM Cells

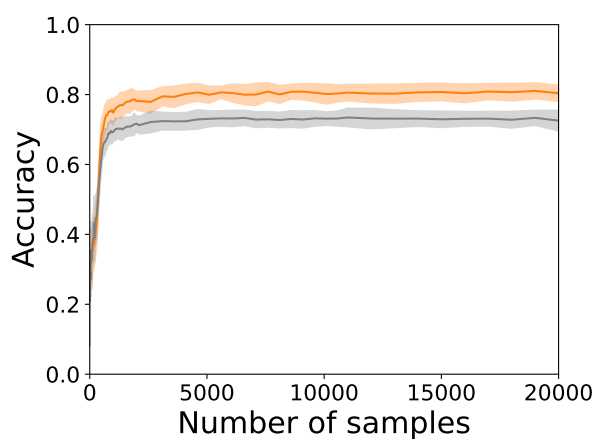
1.20. Candoshi; $|\mathcal{W}| = 19$



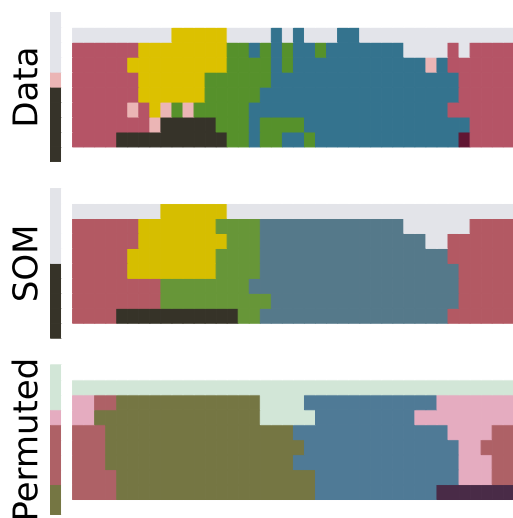
(a) Learning Space



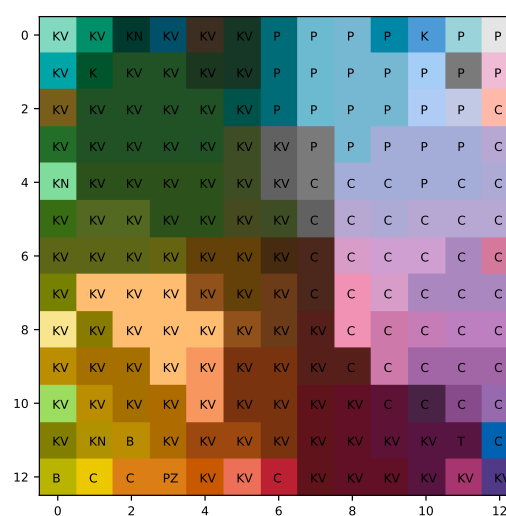
(b) Communicative Space



(c) Accuracy

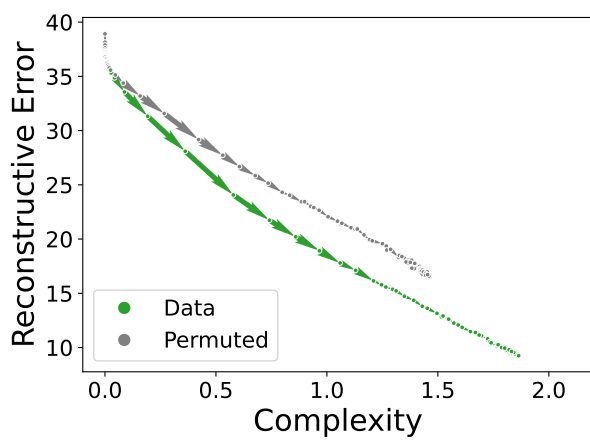


(d) Mode Maps

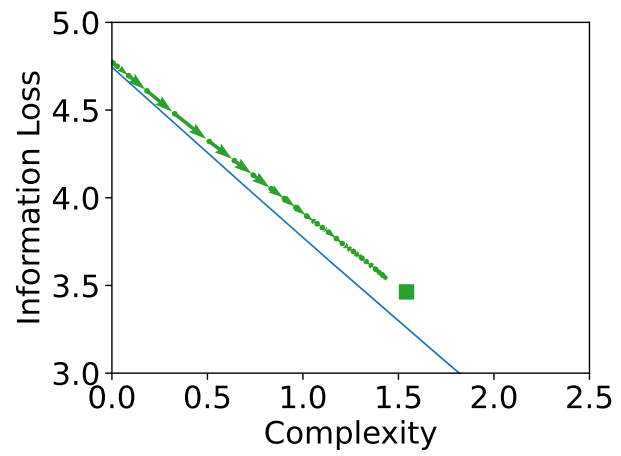


(e) Learnt SOM Cells

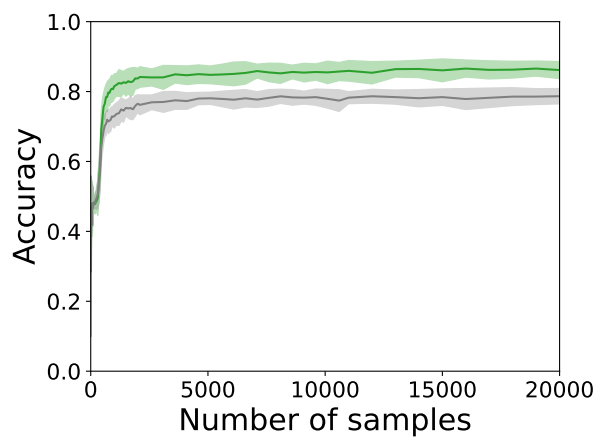
1.21. Cavineña; $|\mathcal{W}| = 10$



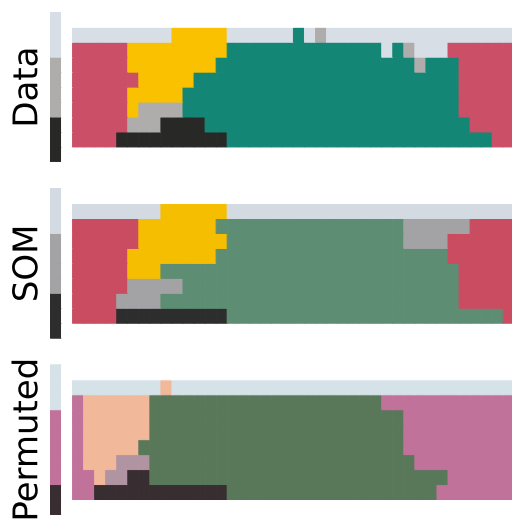
(a) Learning Space



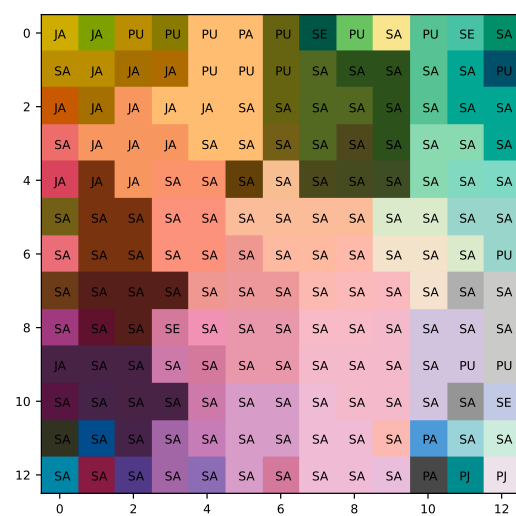
(b) Communicative Space



(c) Accuracy

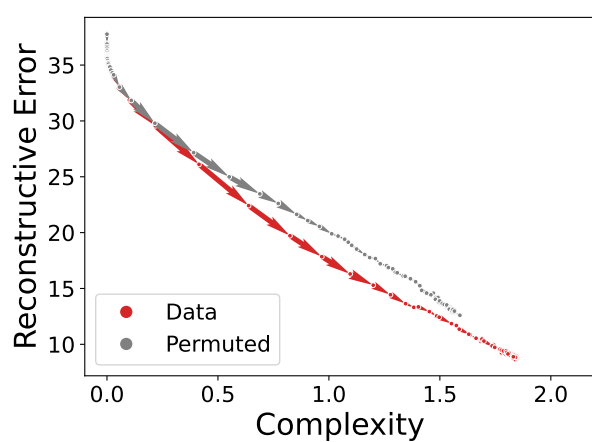


(d) Mode Maps

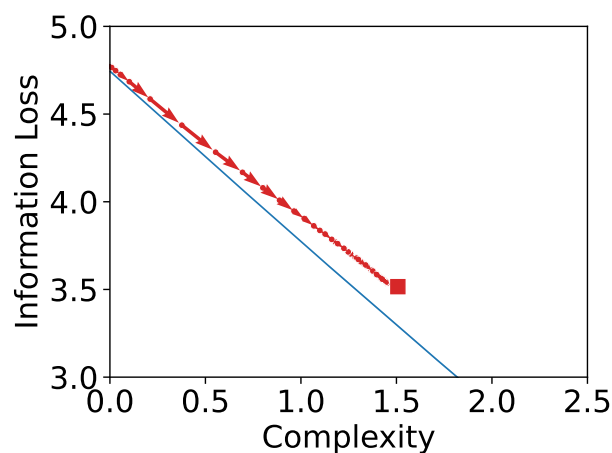


(e) Learnt SOM Cells

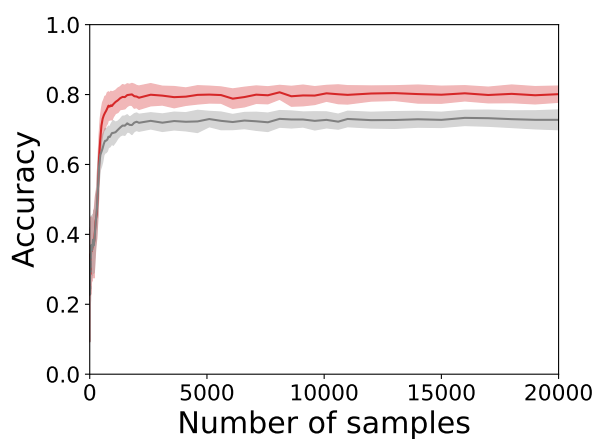
1.22. Cayapa; $|\mathcal{W}| = 13$



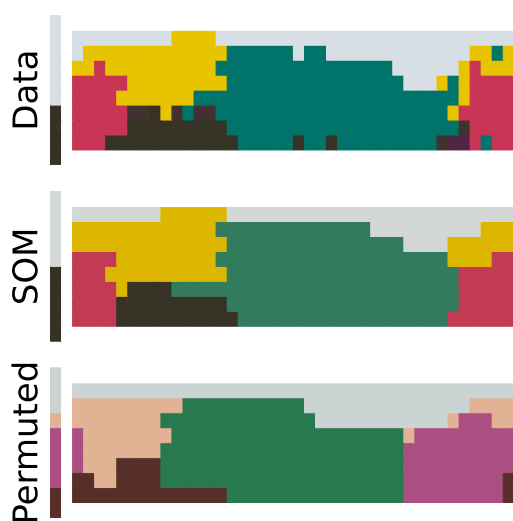
(a) Learning Space



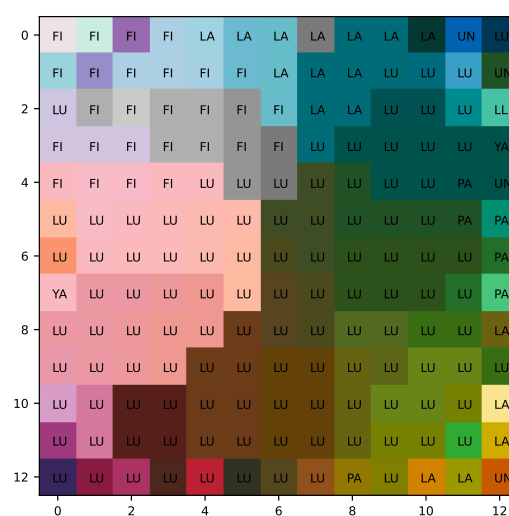
(b) Communicative Space



(c) Accuracy

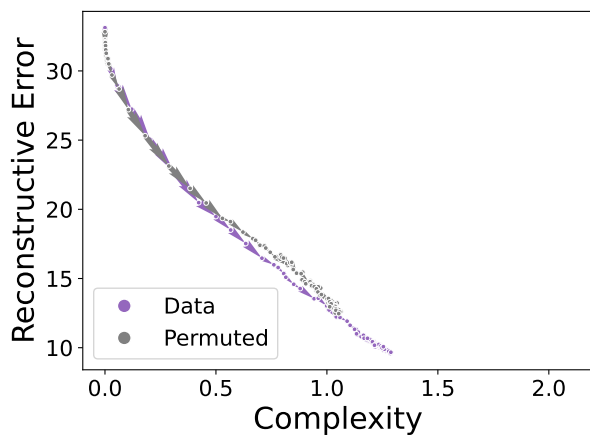


(d) Mode Maps

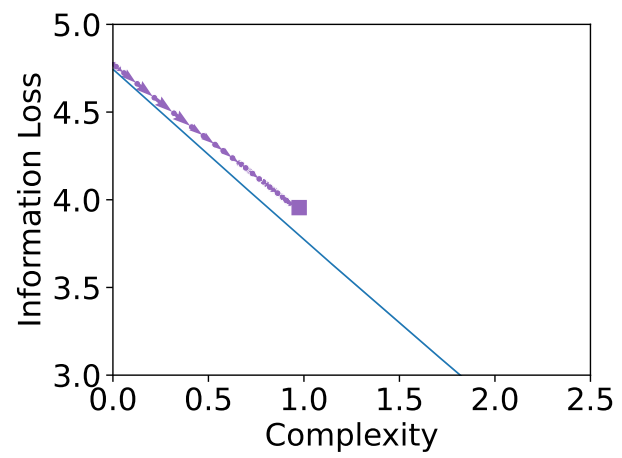


(e) Learnt SOM Cells

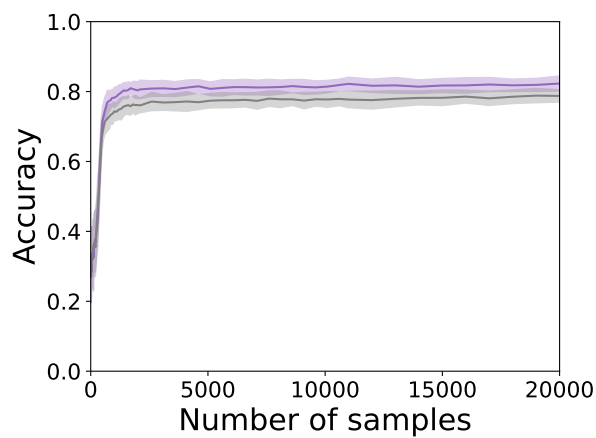
1.23. Chácobo; $|\mathcal{W}| = 6$



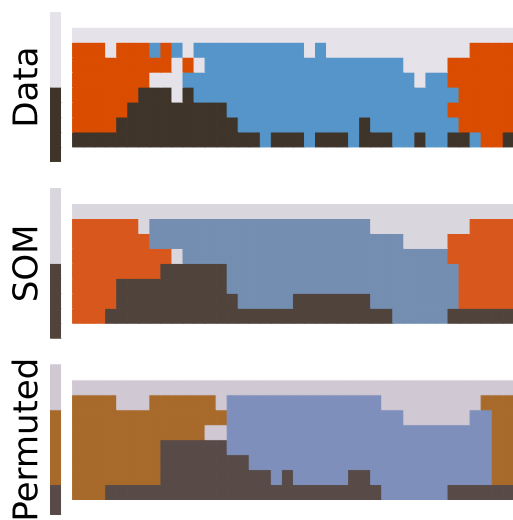
(a) Learning Space



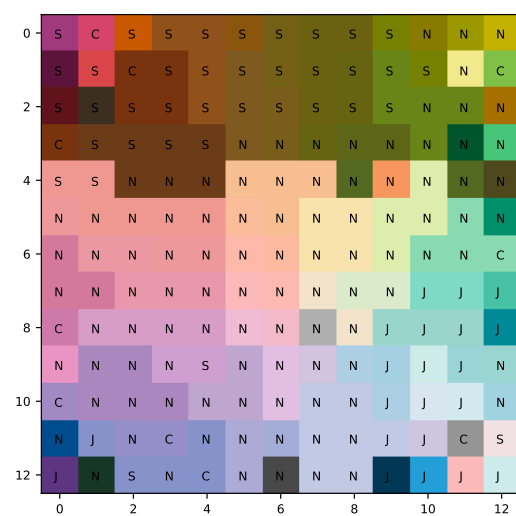
(b) Communicative Space



(c) Accuracy

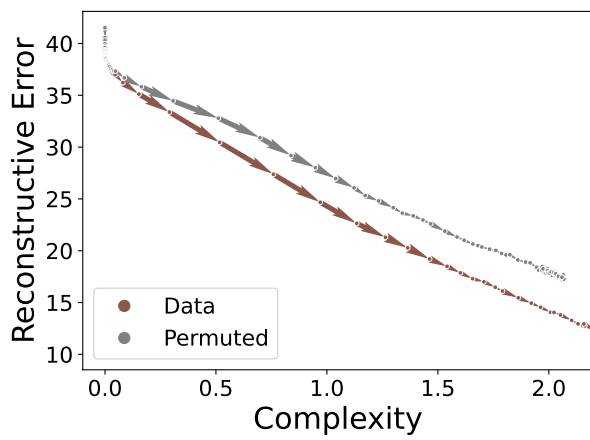


(d) Mode Maps

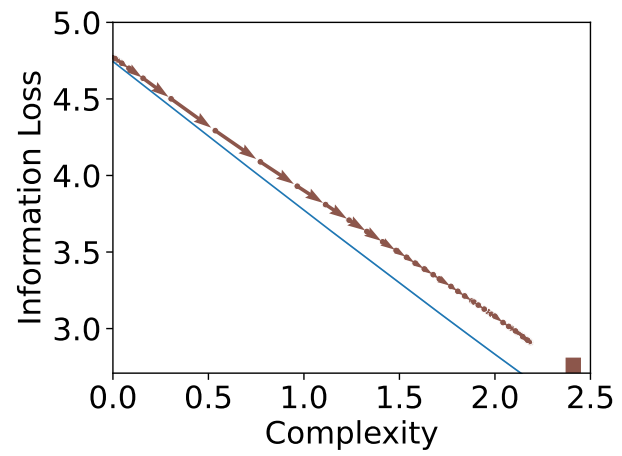


(e) Learnt SOM Cells

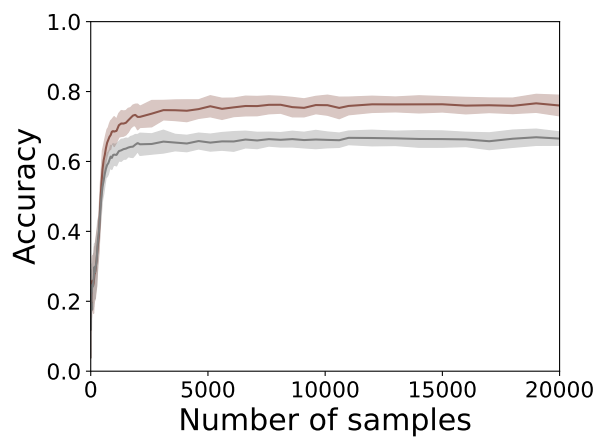
1.24. Chavacano; $|\mathcal{W}| = 19$



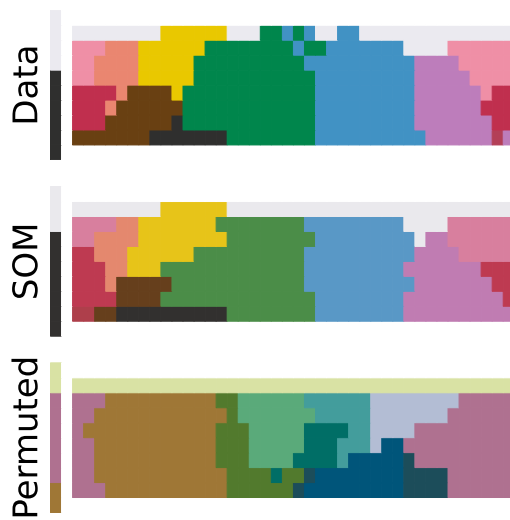
(a) Learning Space



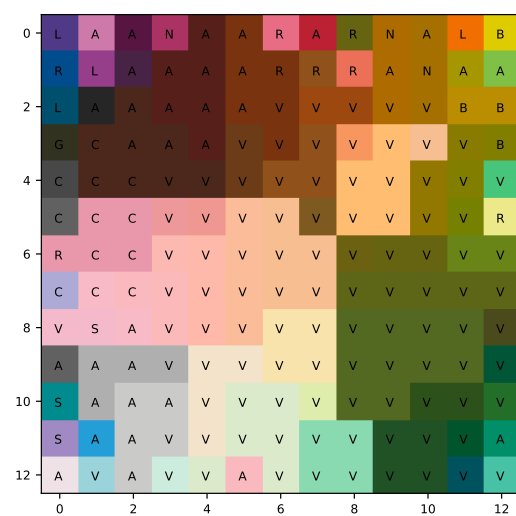
(b) Communicative Space



(c) Accuracy

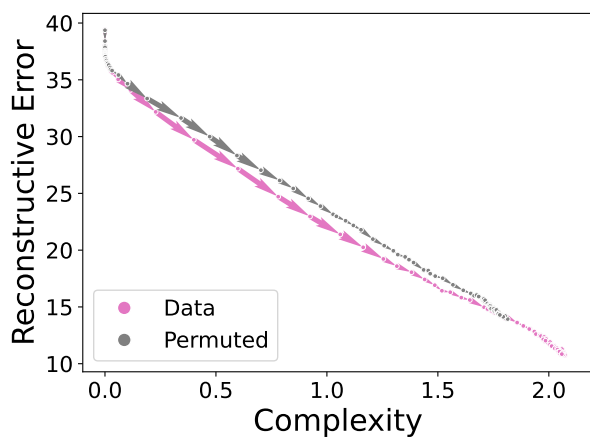


(d) Mode Maps

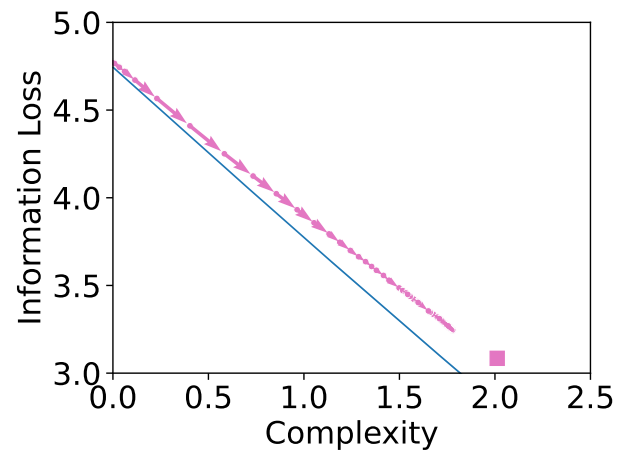


(e) Learnt SOM Cells

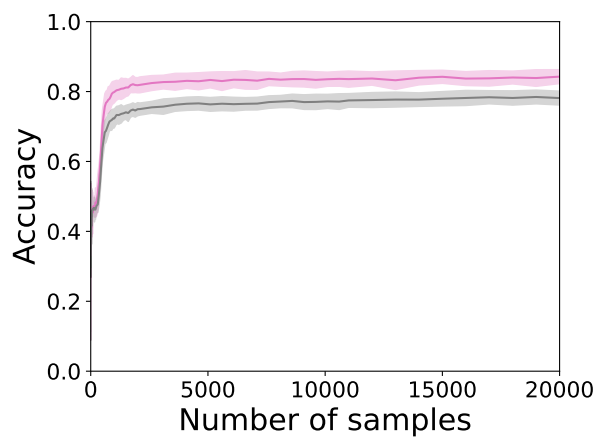
1.25. Chayahuita; $|\mathcal{W}| = 8$



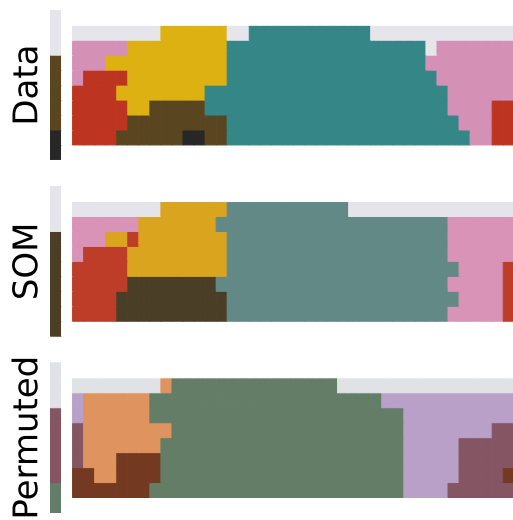
(a) Learning Space



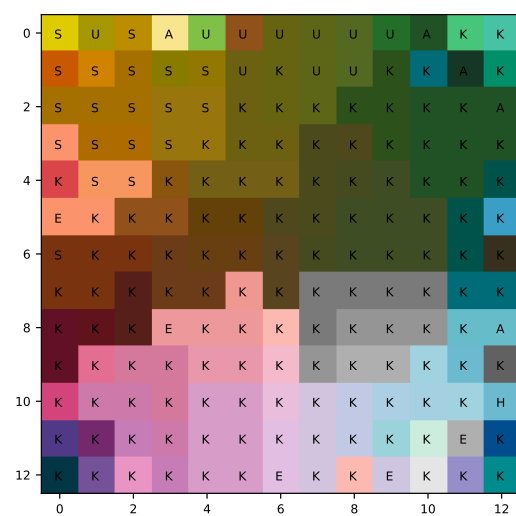
(b) Communicative Space



(c) Accuracy

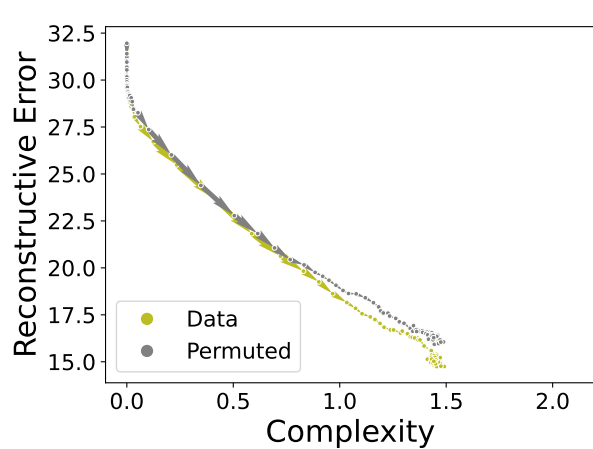


(d) Mode Maps

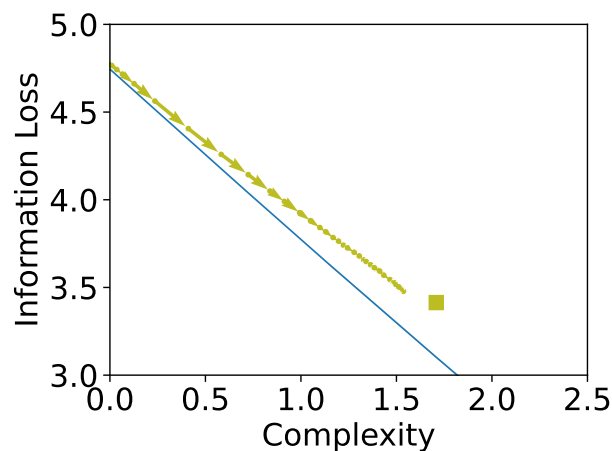


(e) Learnt SOM Cells

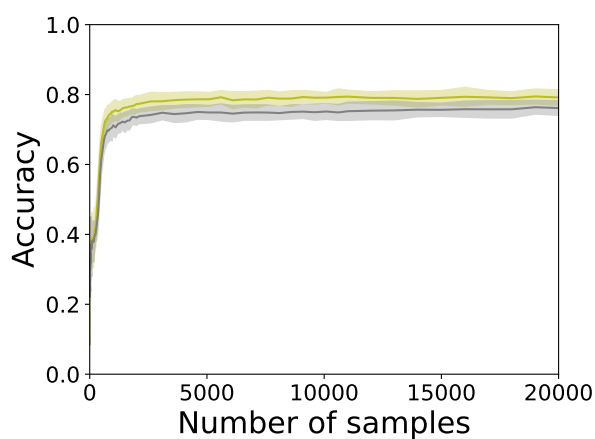
1.26. Chinanteco; $|W| = 12$



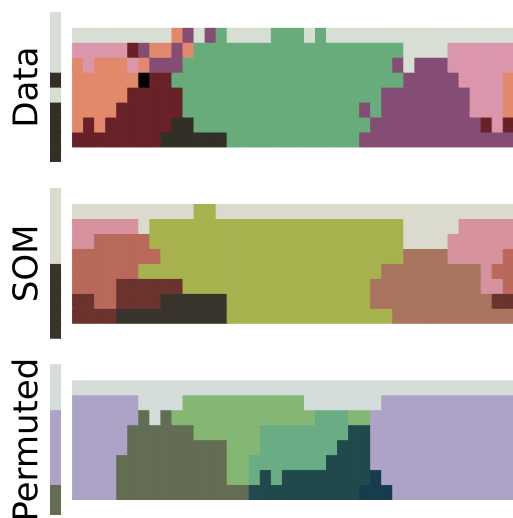
(a) Learning Space



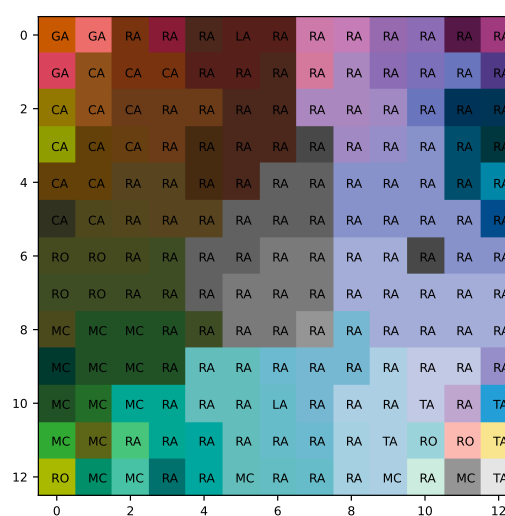
(b) Communicative Space



(c) Accuracy

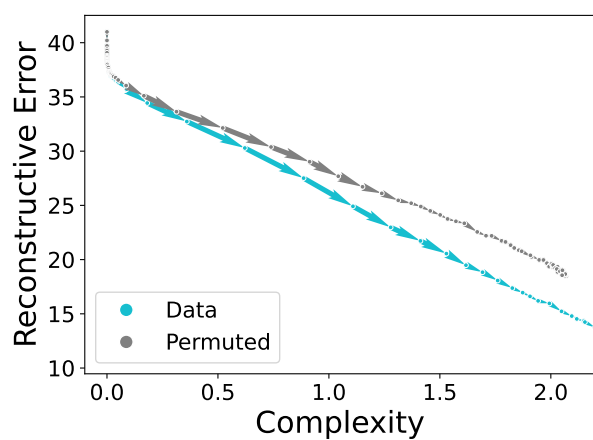


(d) Mode Maps

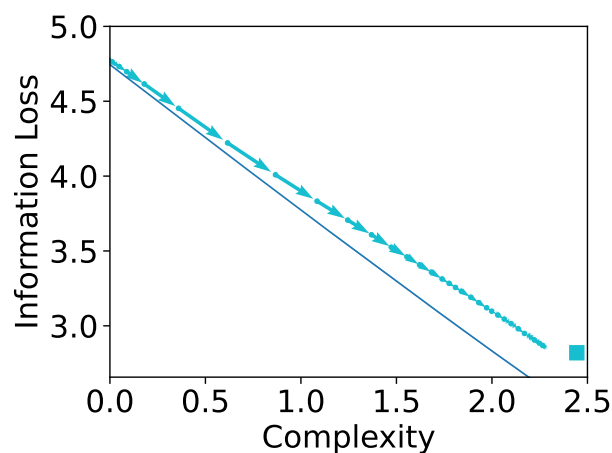


(e) Learnt SOM Cells

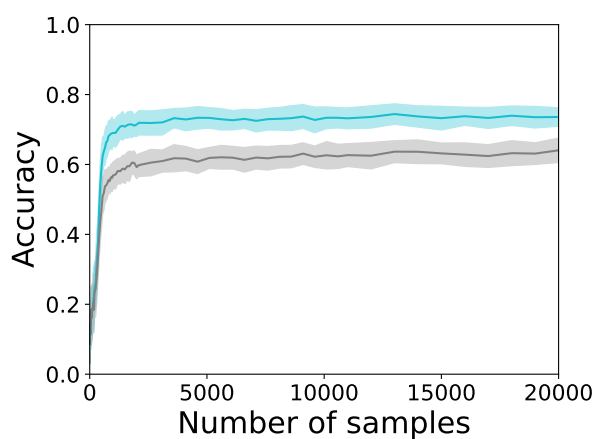
1.27. Chiquitano; $|\mathcal{W}| = 47$



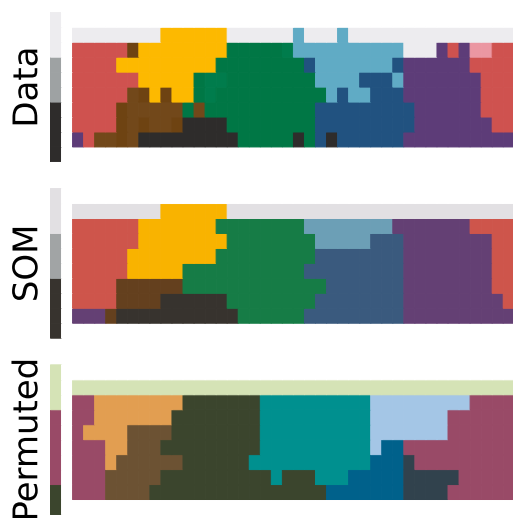
(a) Learning Space



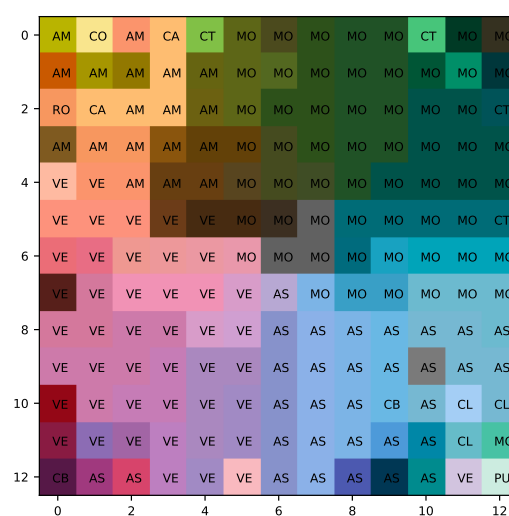
(b) Communicative Space



(c) Accuracy

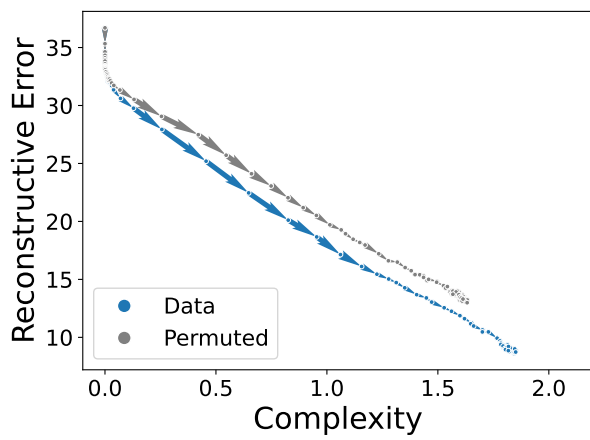


(d) Mode Maps

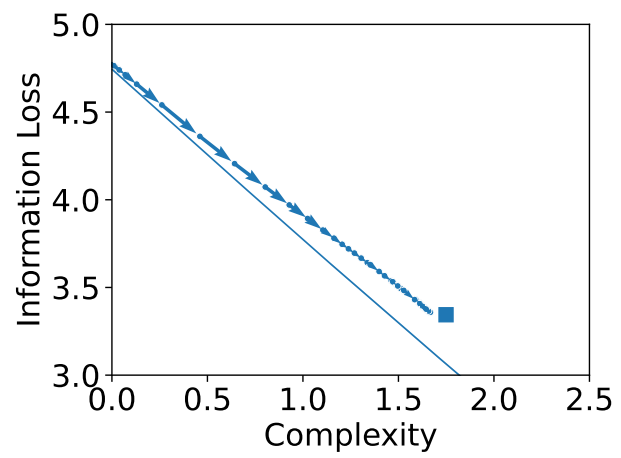


(e) Learnt SOM Cells

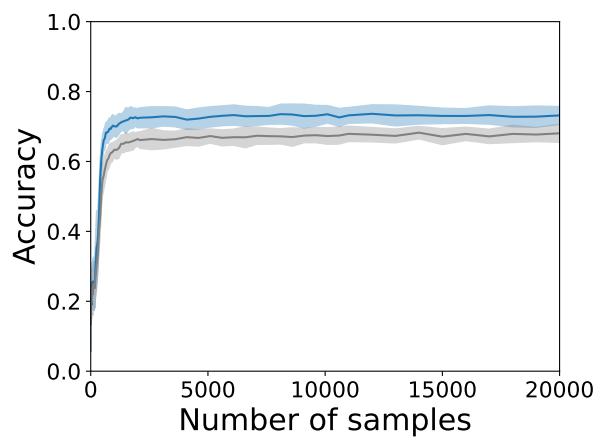
1.28. Chumburu; $|\mathcal{W}| = 24$



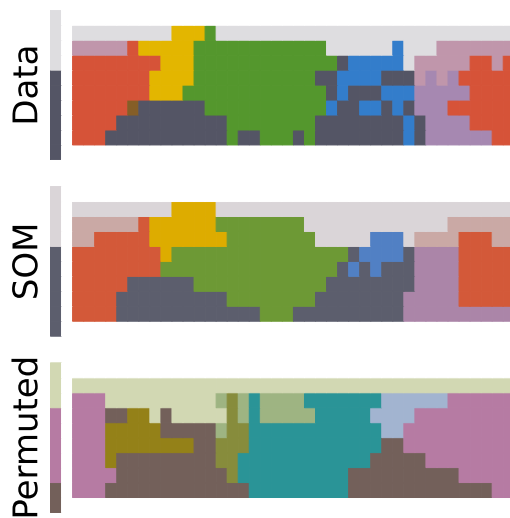
(a) Learning Space



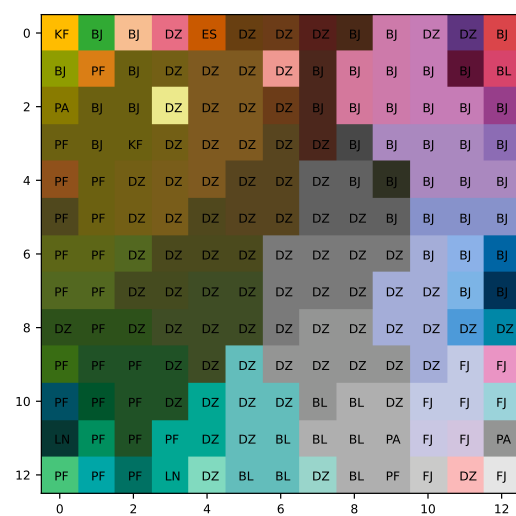
(b) Communicative Space



(c) Accuracy

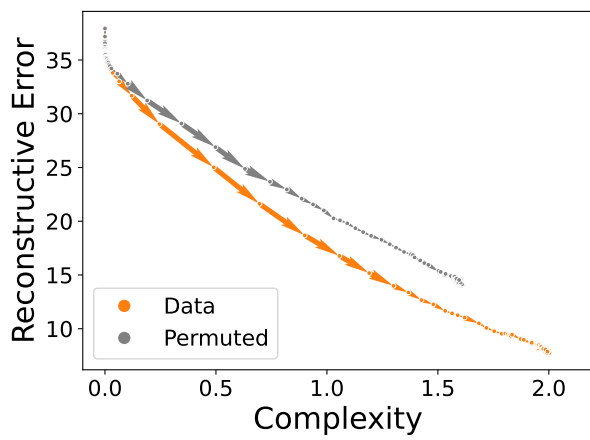


(d) Mode Maps

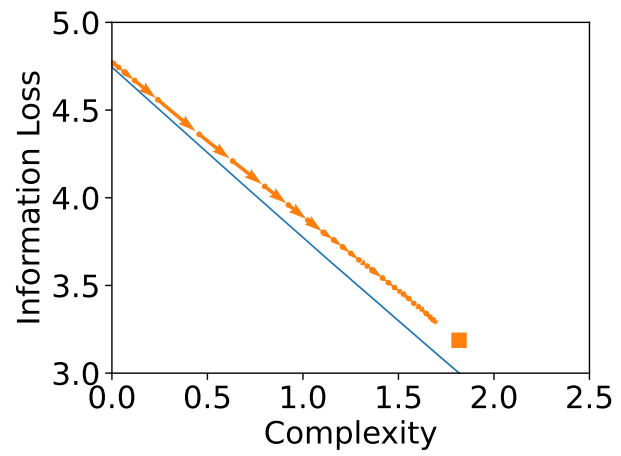


(e) Learnt SOM Cells

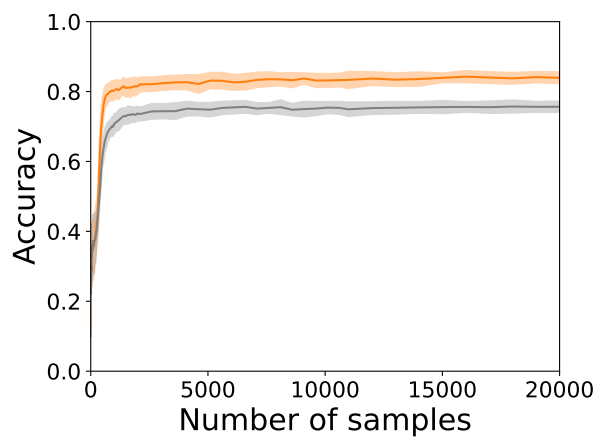
1.29. Cofán; $|\mathcal{W}| = 10$



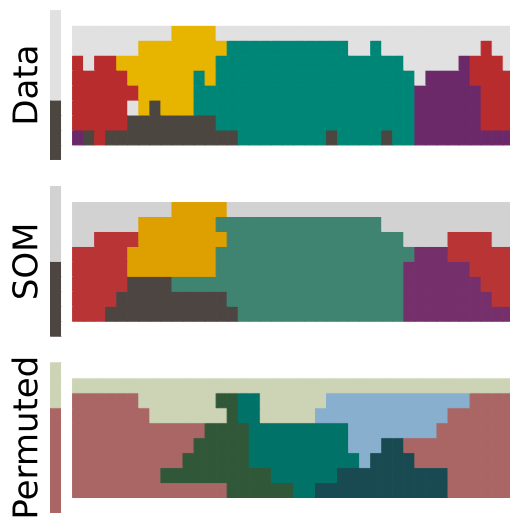
(a) Learning Space



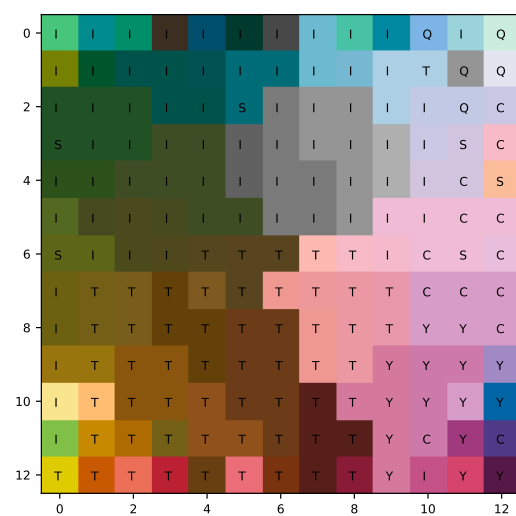
(b) Communicative Space



(c) Accuracy

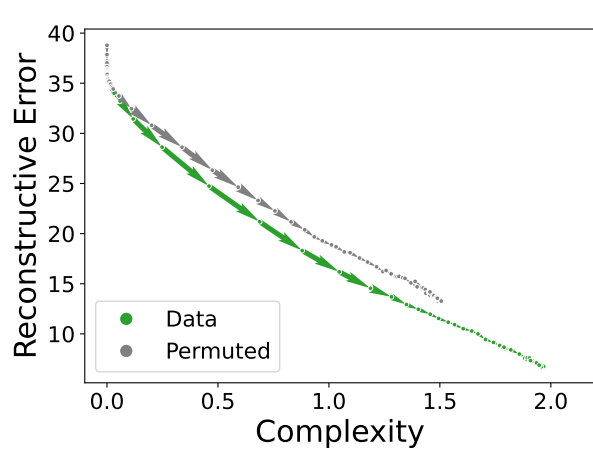


(d) Mode Maps

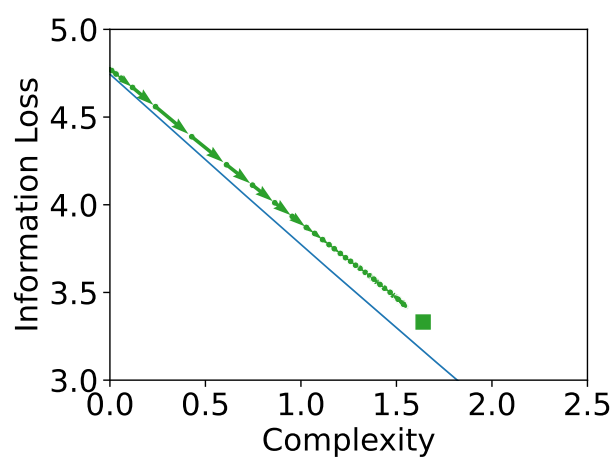


(e) Learnt SOM Cells

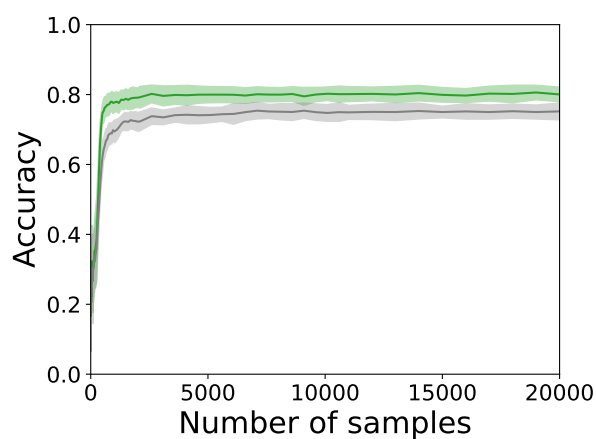
1.30. Colorado; $|\mathcal{W}| = 6$



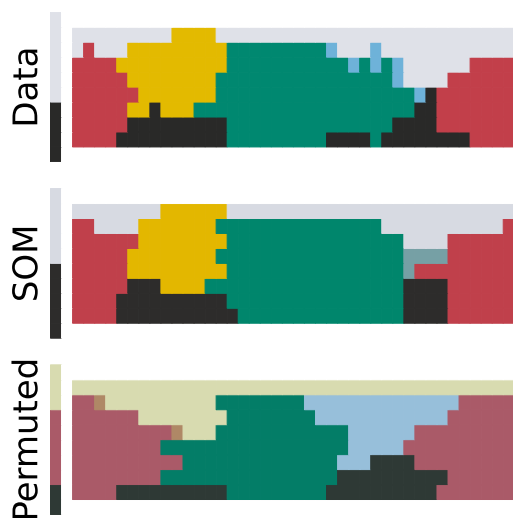
(a) Learning Space



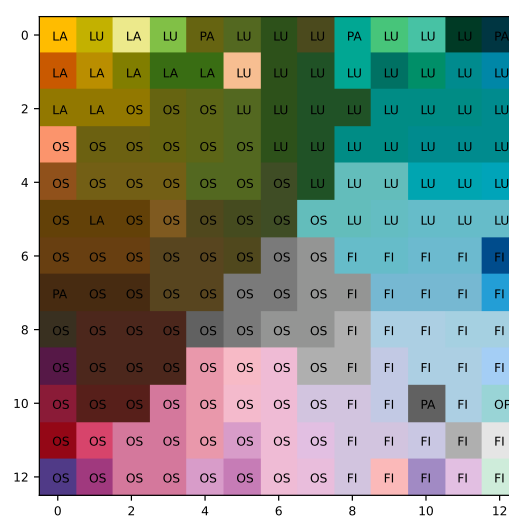
(b) Communicative Space



(c) Accuracy

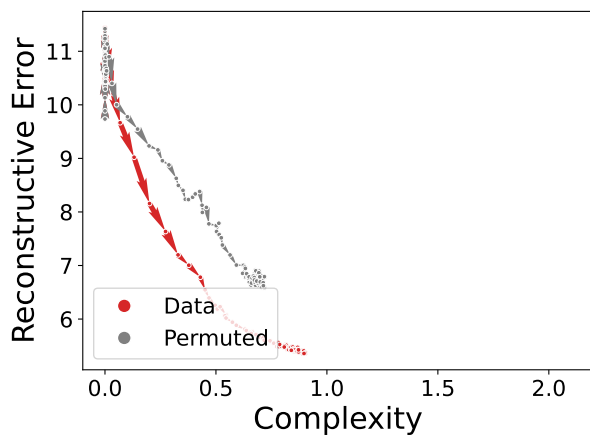


(d) Mode Maps

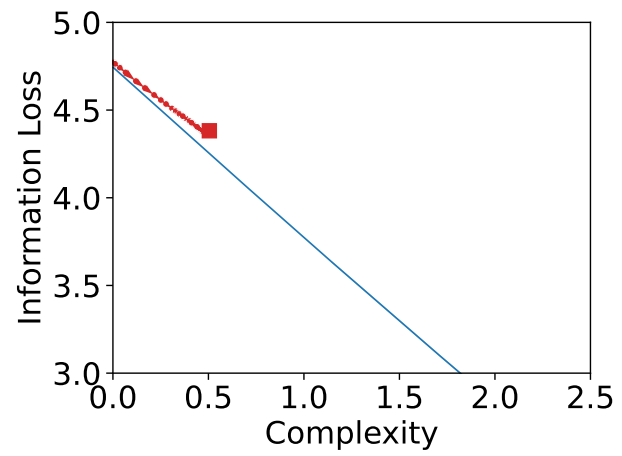


(e) Learnt SOM Cells

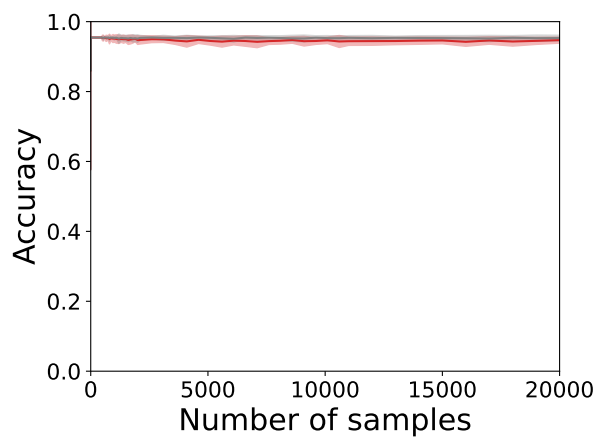
1.31. Eastern Cree; $|\mathcal{W}| = 8$



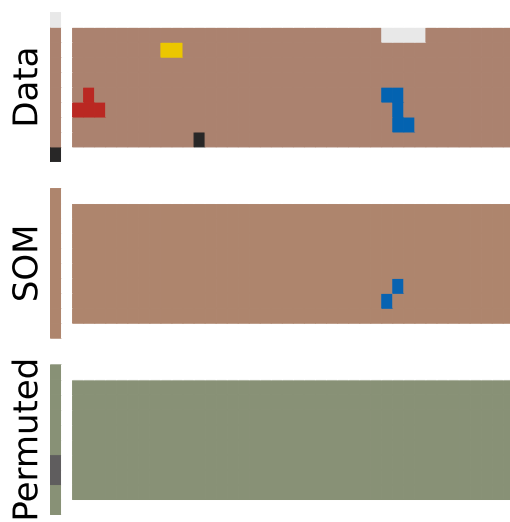
(a) Learning Space



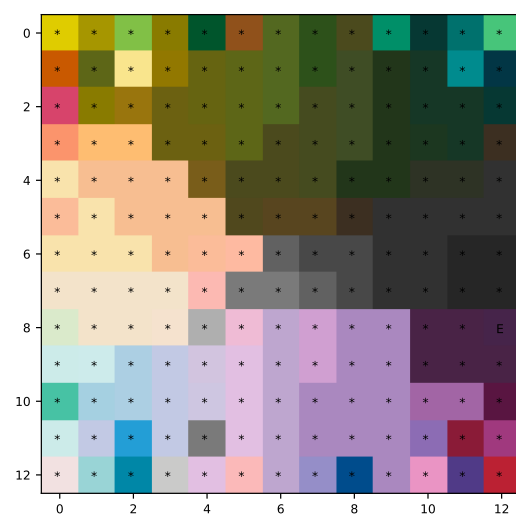
(b) Communicative Space



(c) Accuracy

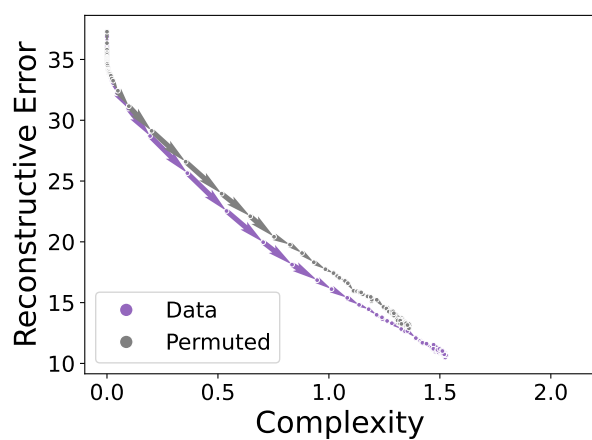


(d) Mode Maps

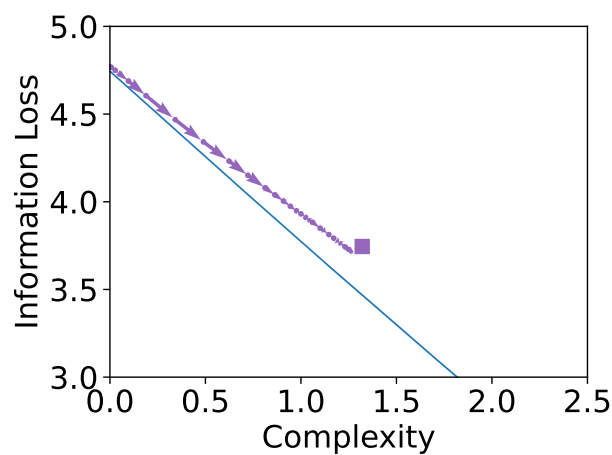


(e) Learnt SOM Cells

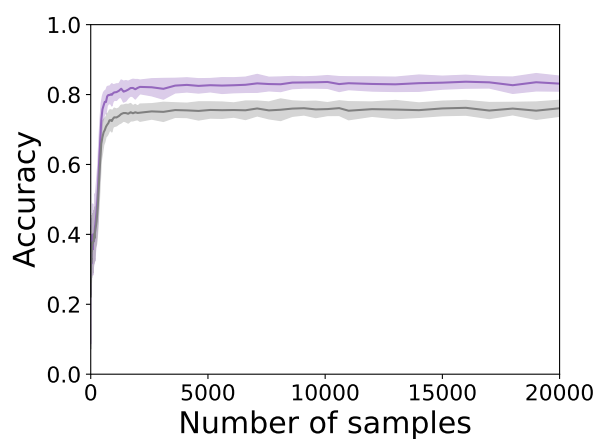
1.32. Culina; $|\mathcal{W}| = 27$



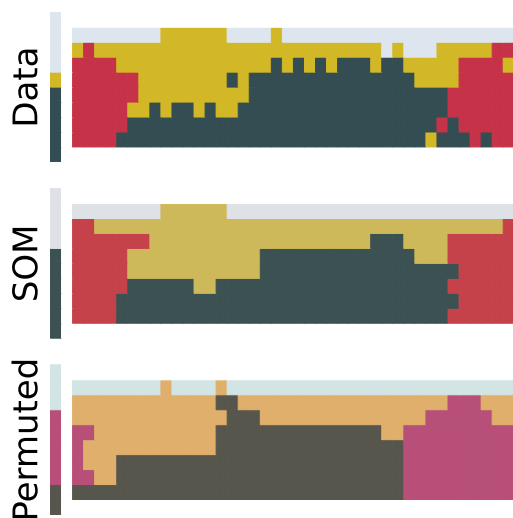
(a) Learning Space



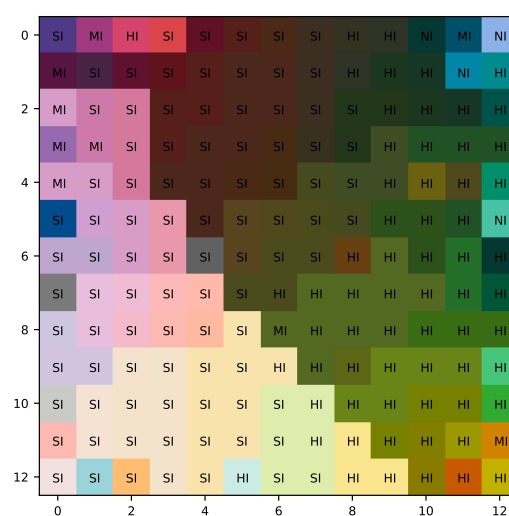
(b) Communicative Space



(c) Accuracy

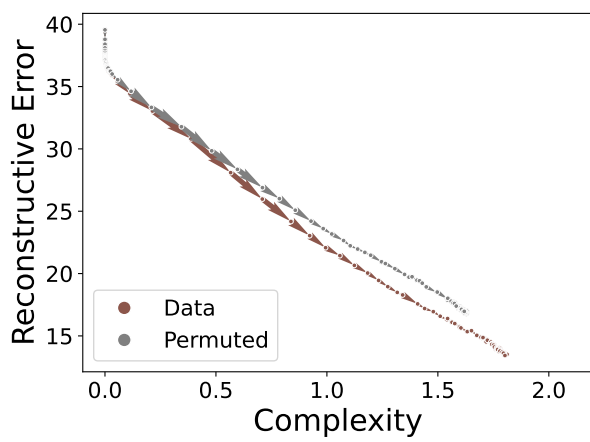


(d) Mode Maps

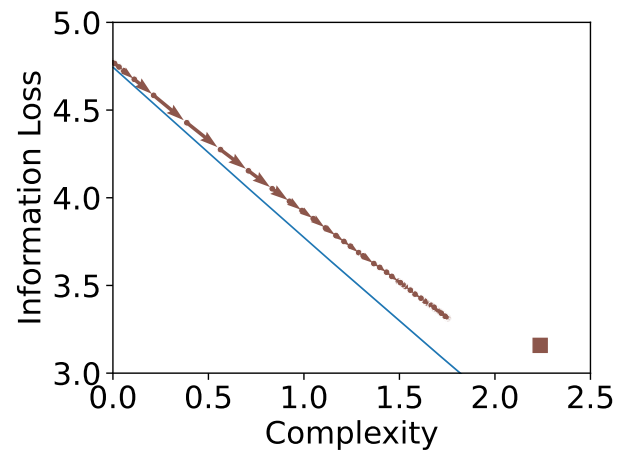


(e) Learnt SOM Cells

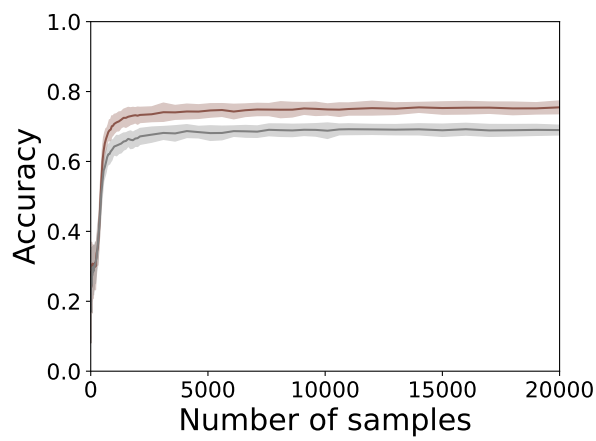
1.33. Didinga; $|\mathcal{W}| = 8$



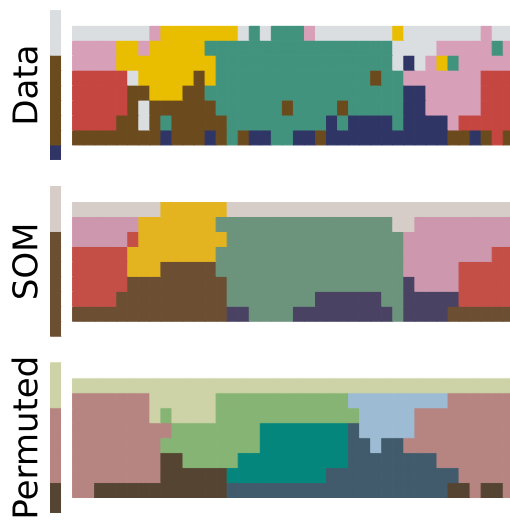
(a) Learning Space



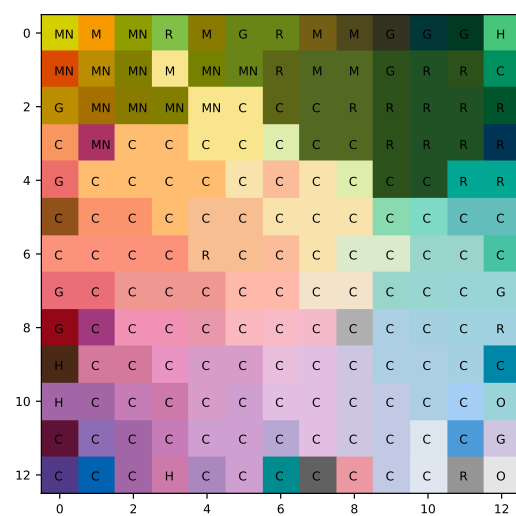
(b) Communicative Space



(c) Accuracy

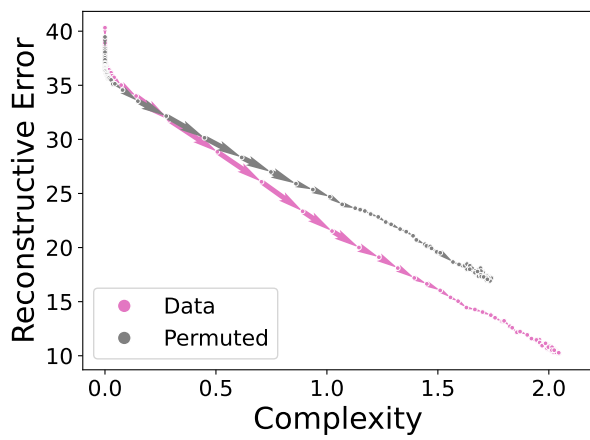


(d) Mode Maps

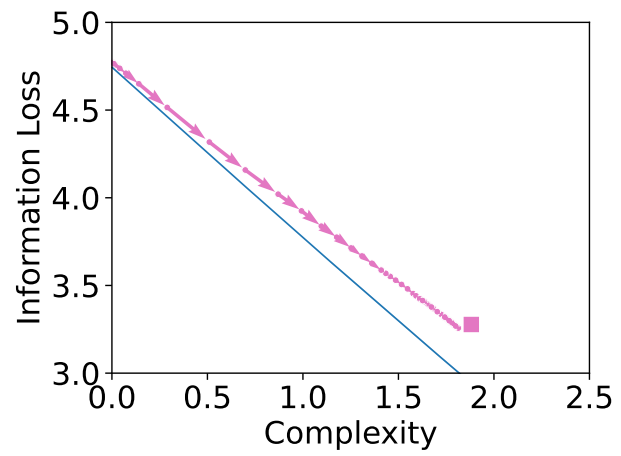


(e) Learnt SOM Cells

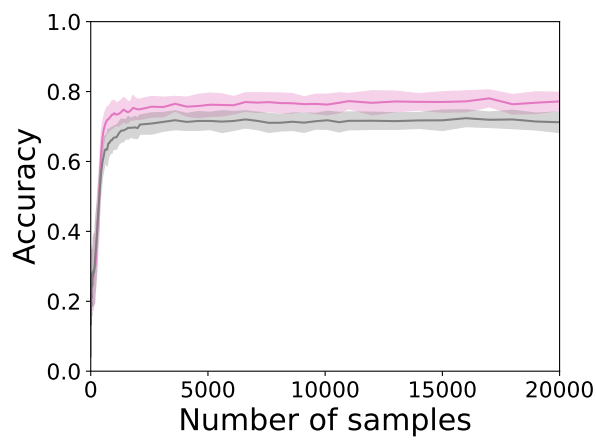
1.34. Djuka; $|\mathcal{W}| = 23$



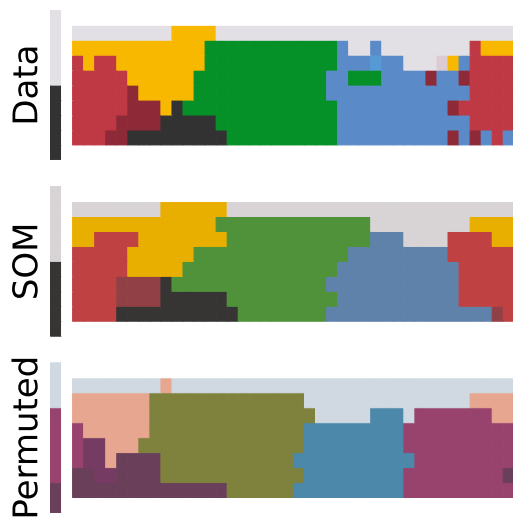
(a) Learning Space



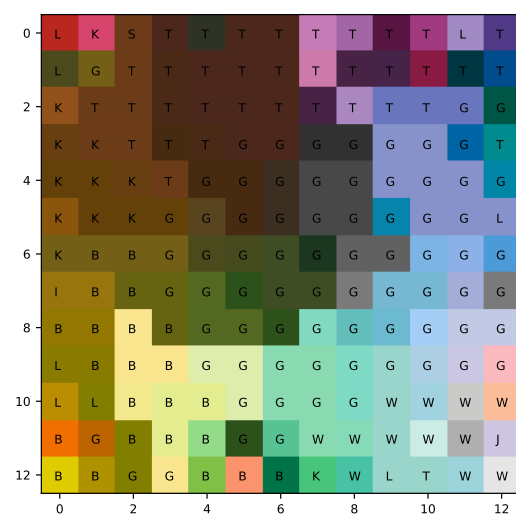
(b) Communicative Space



(c) Accuracy

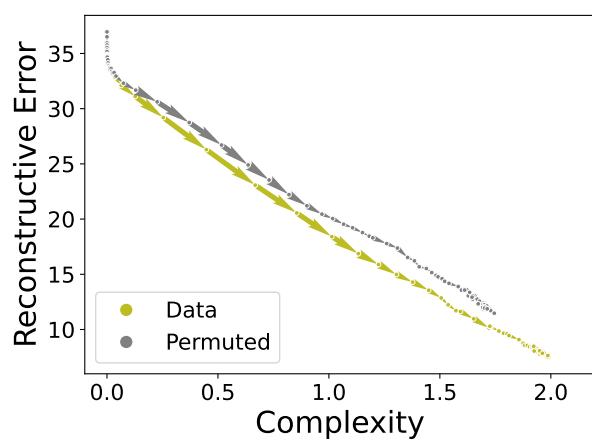


(d) Mode Maps

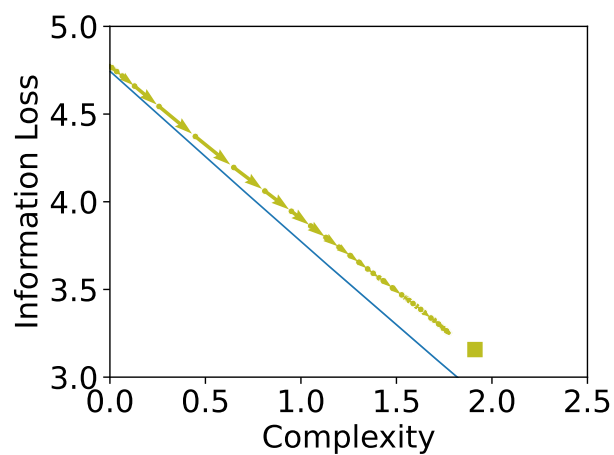


(e) Learnt SOM Cells

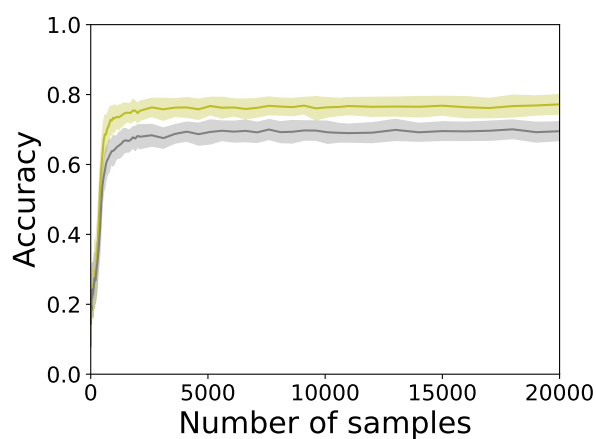
1.35. *Dyimini*; $|\mathcal{W}| = 13$



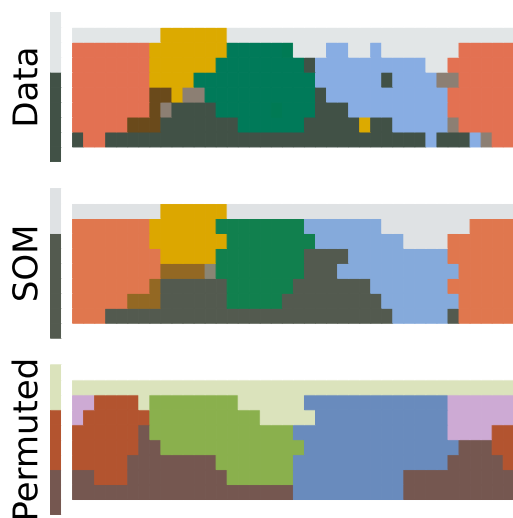
(a) Learning Space



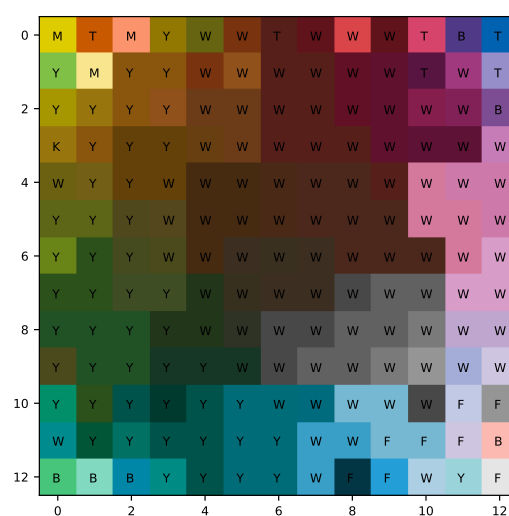
(b) Communicative Space



(c) Accuracy

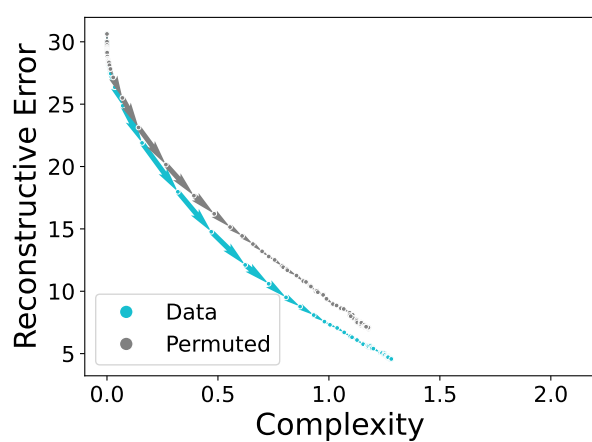


(d) Mode Maps

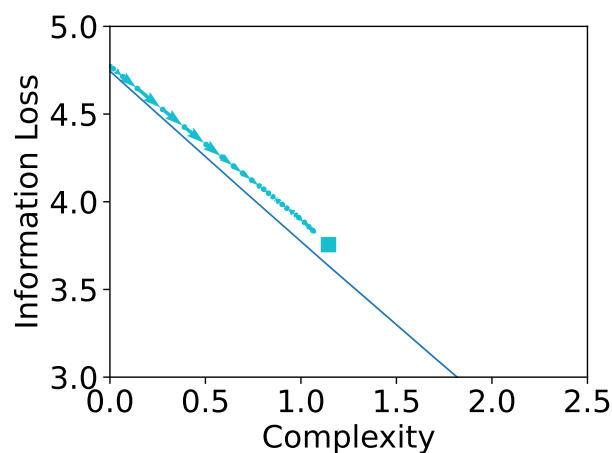


(e) Learnt SOM Cells

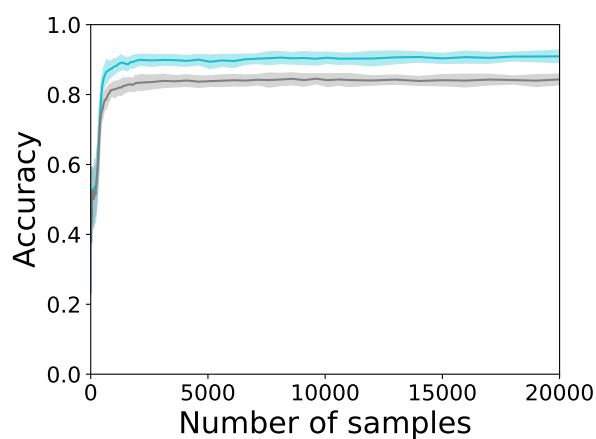
1.36. Ejagam; $|\mathcal{W}| = 8$



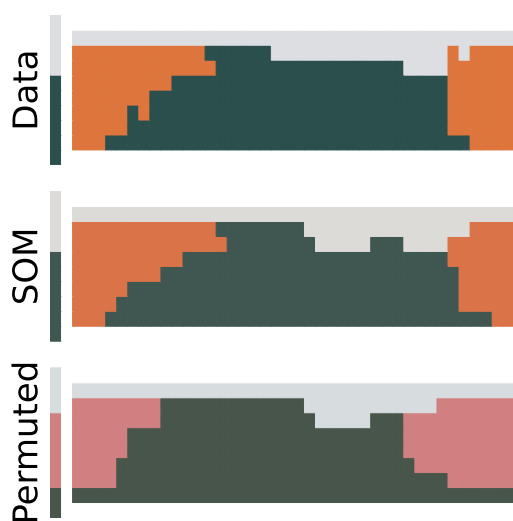
(a) Learning Space



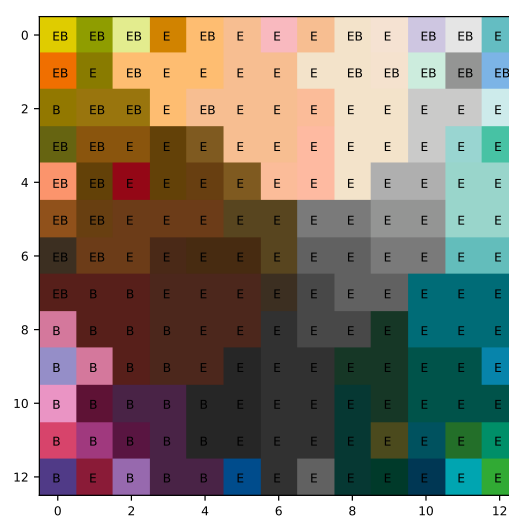
(b) Communicative Space



(c) Accuracy

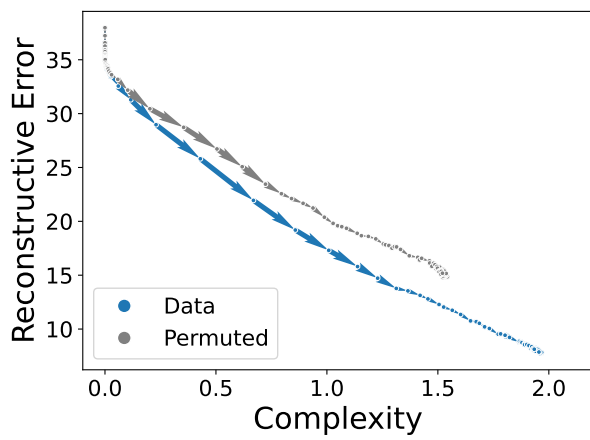


(d) Mode Maps

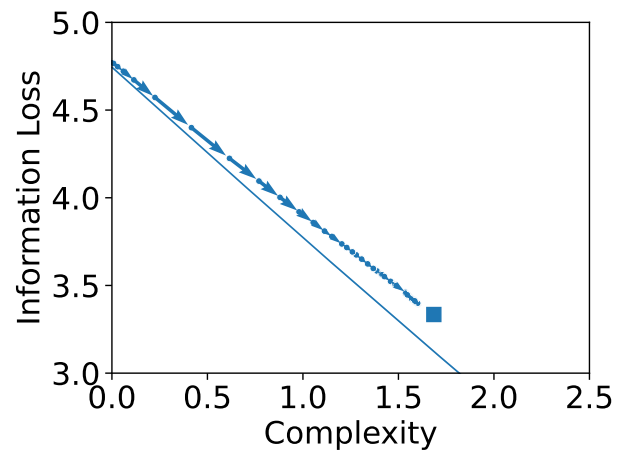


(e) Learnt SOM Cells

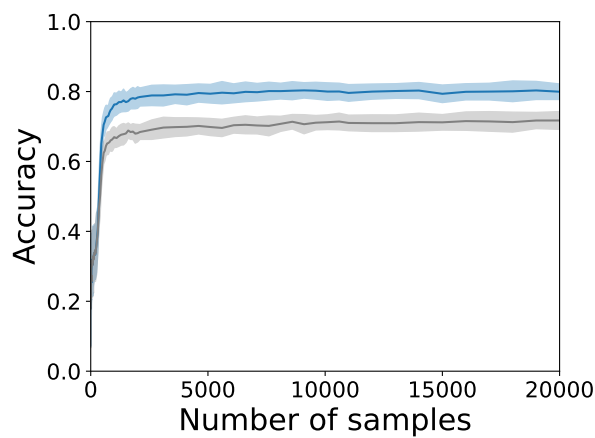
1.37. Ese Ejja; $|\mathcal{W}| = 13$



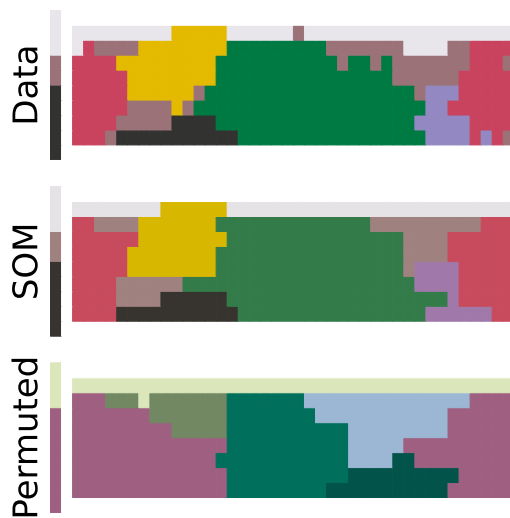
(a) Learning Space



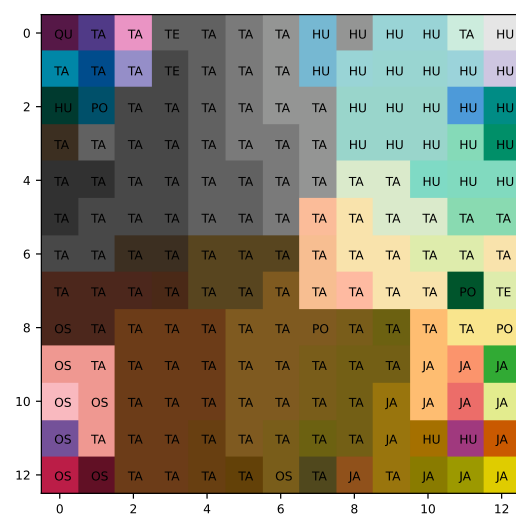
(b) Communicative Space



(c) Accuracy

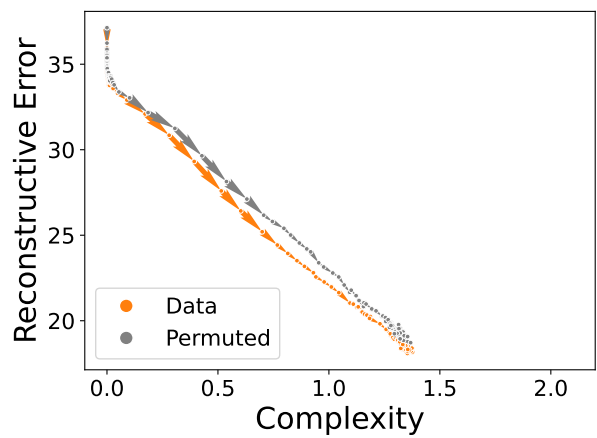


(d) Mode Maps

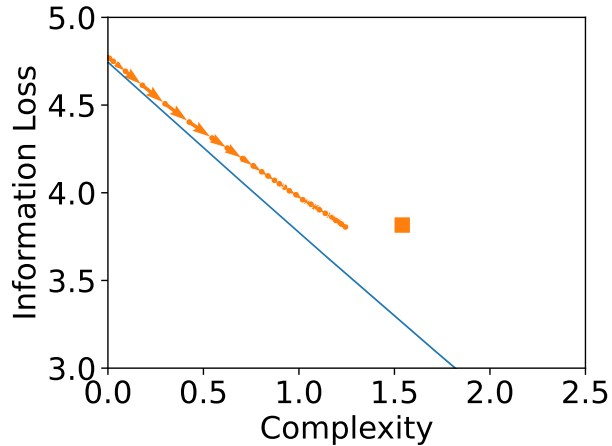


(e) Learnt SOM Cells

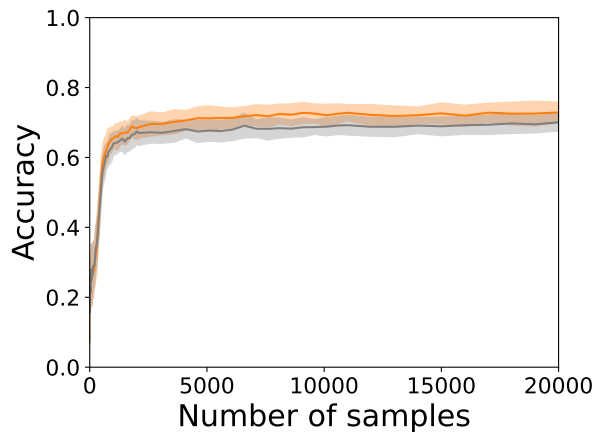
1.38. Carib; $|\mathcal{W}| = 19$



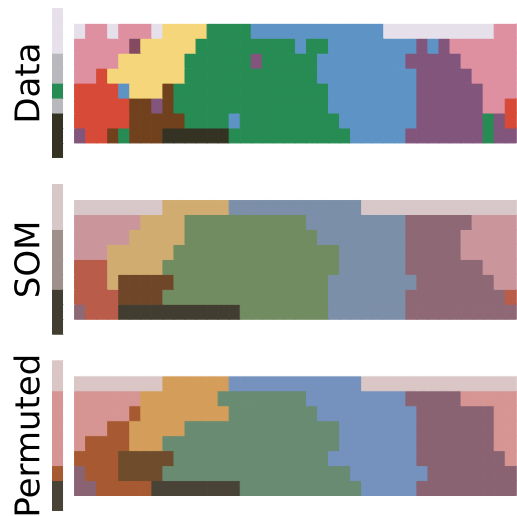
(a) Learning Space



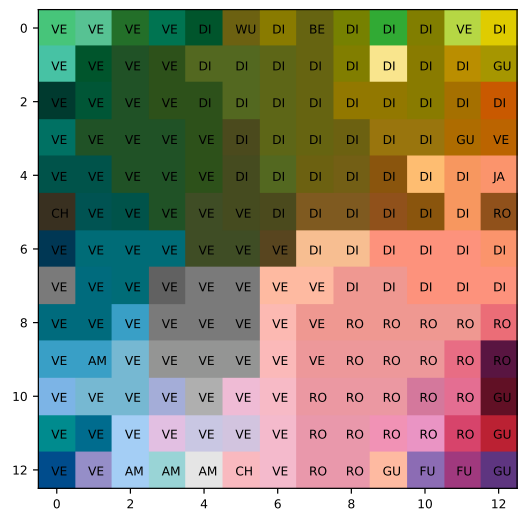
(b) Communicative Space



(c) Accuracy

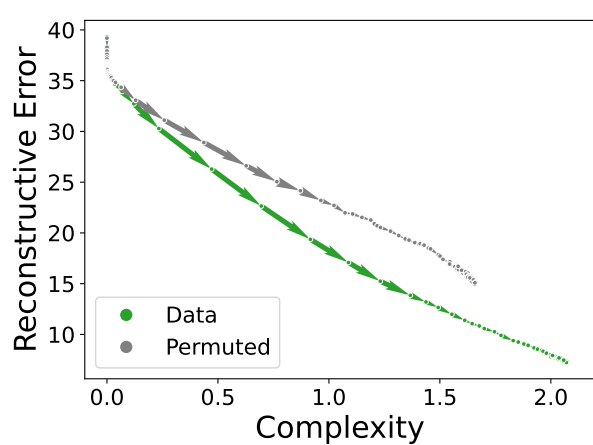


(d) Mode Maps

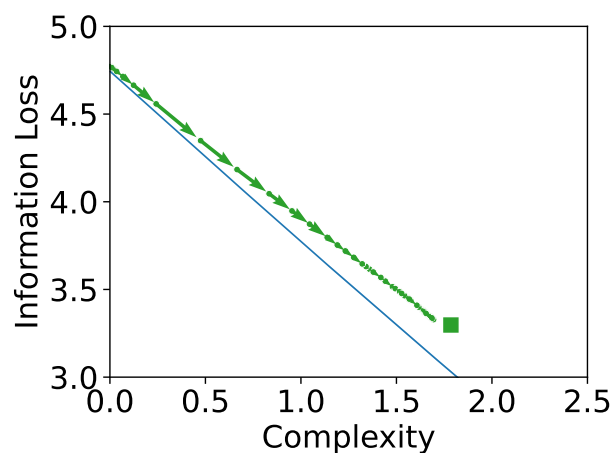


(e) Learnt SOM Cells

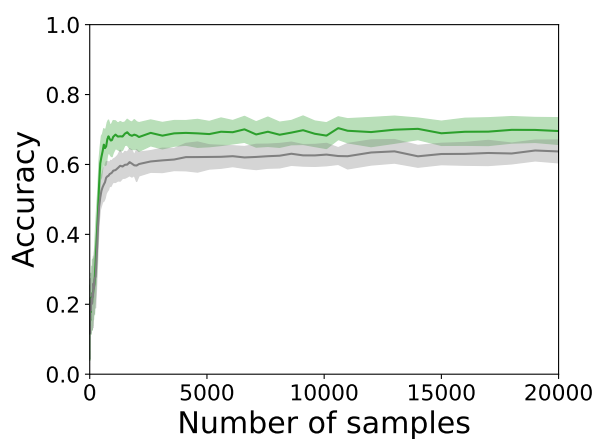
1.39. Guahibo; $|\mathcal{W}| = 15$



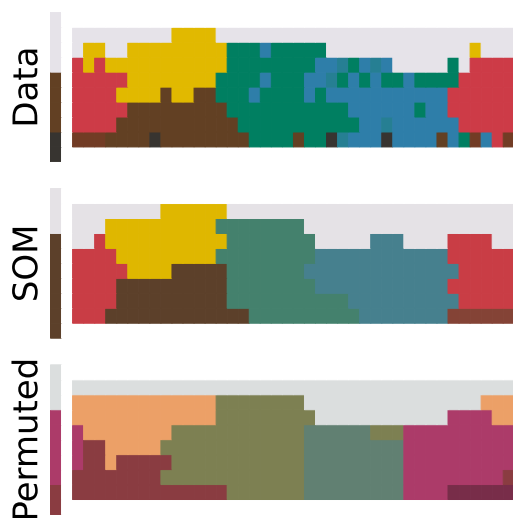
(a) Learning Space



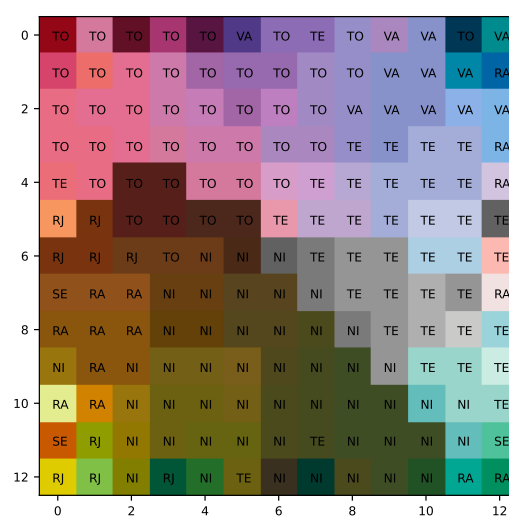
(b) Communicative Space



(c) Accuracy

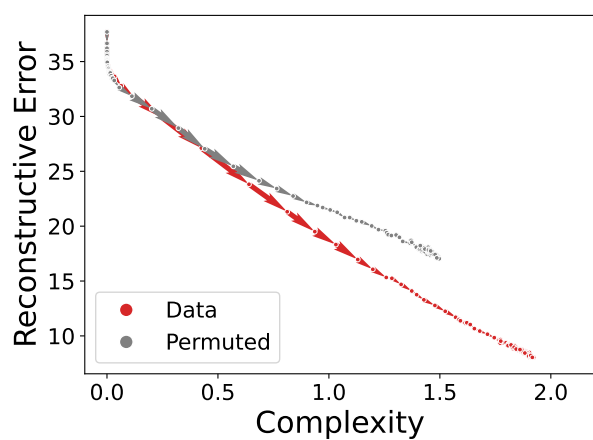


(d) Mode Maps

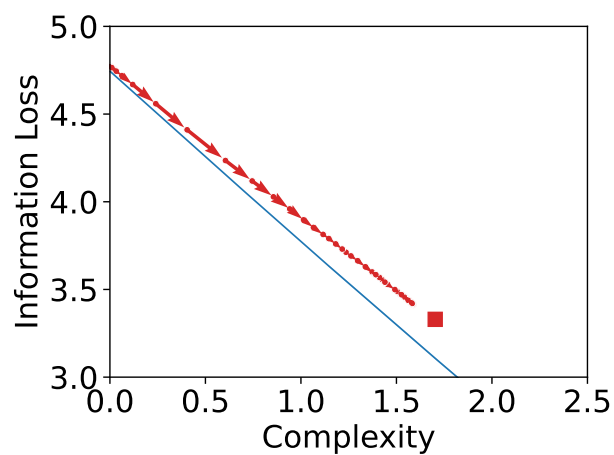


(e) Learnt SOM Cells

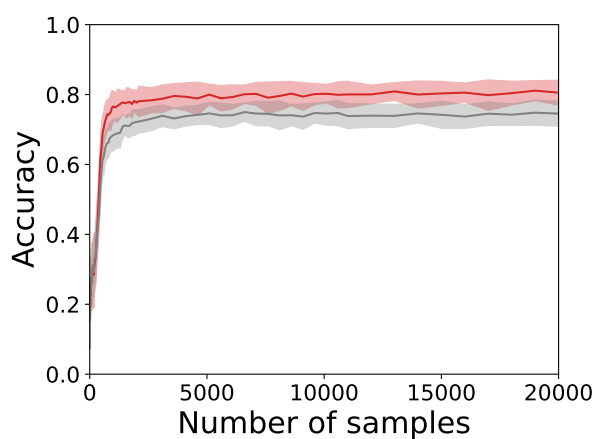
1.40. Guambiano; $|\mathcal{W}| = 9$



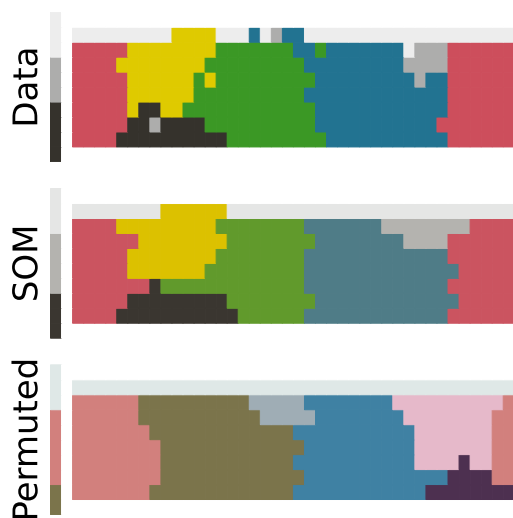
(a) Learning Space



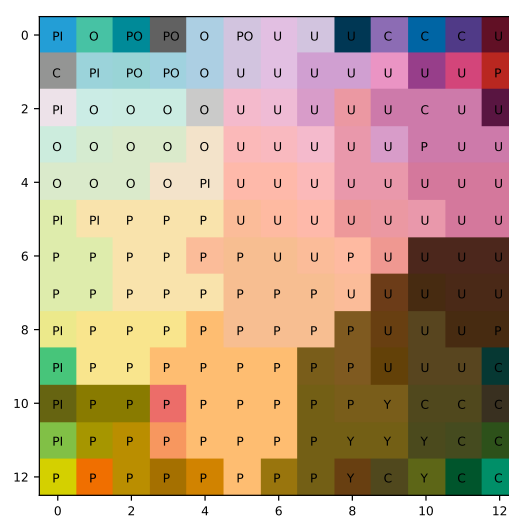
(b) Communicative Space



(c) Accuracy

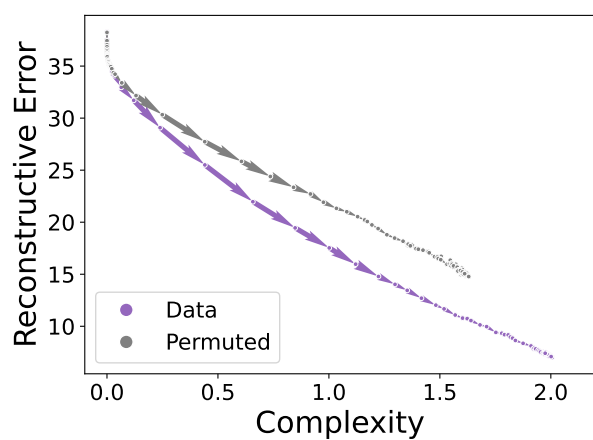


(d) Mode Maps

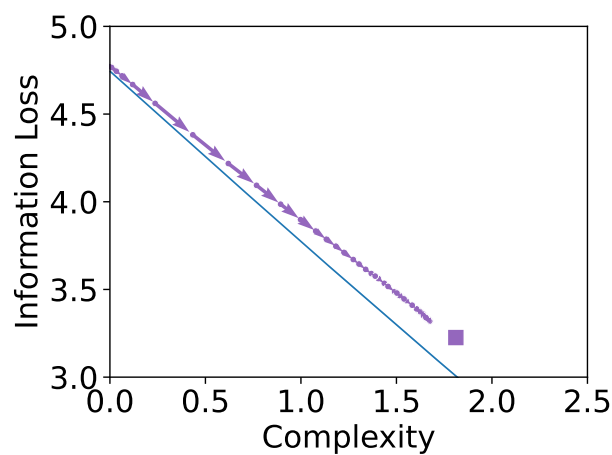


(e) Learnt SOM Cells

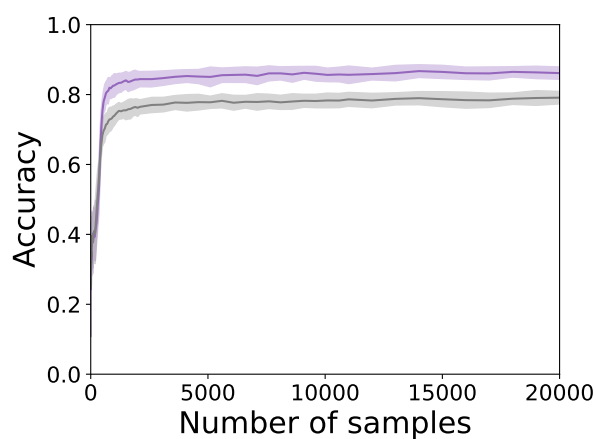
1.41. Guarijio; $|\mathcal{W}| = 13$



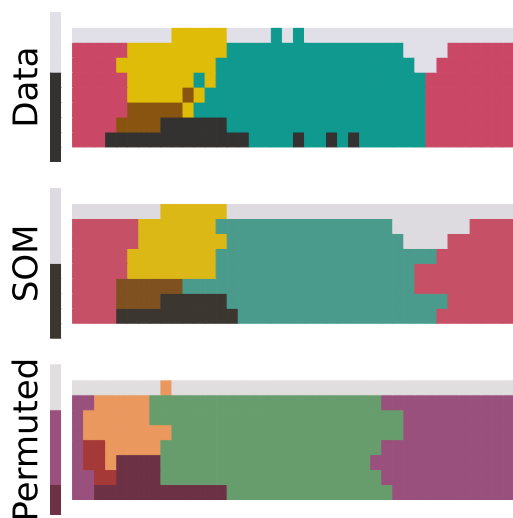
(a) Learning Space



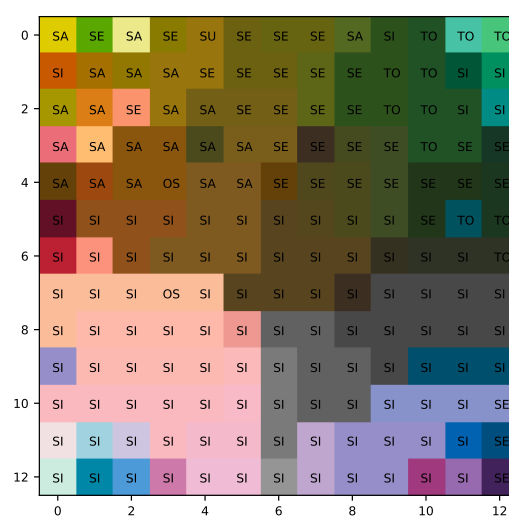
(b) Communicative Space



(c) Accuracy

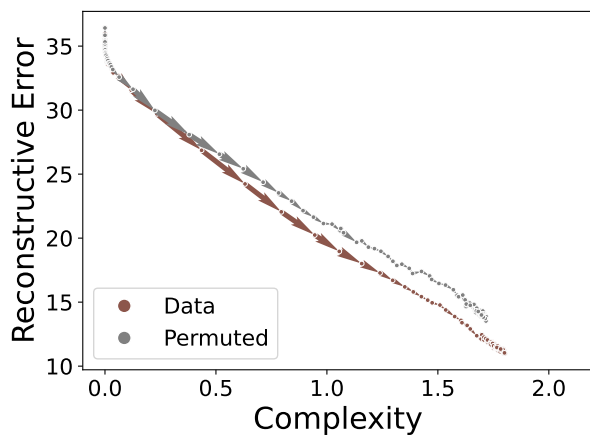


(d) Mode Maps

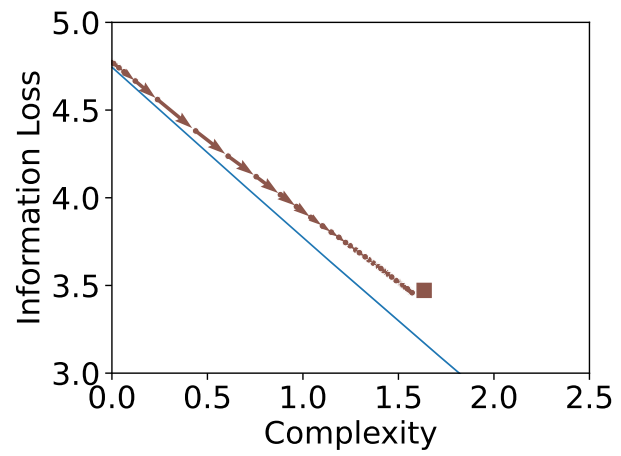


(e) Learnt SOM Cells

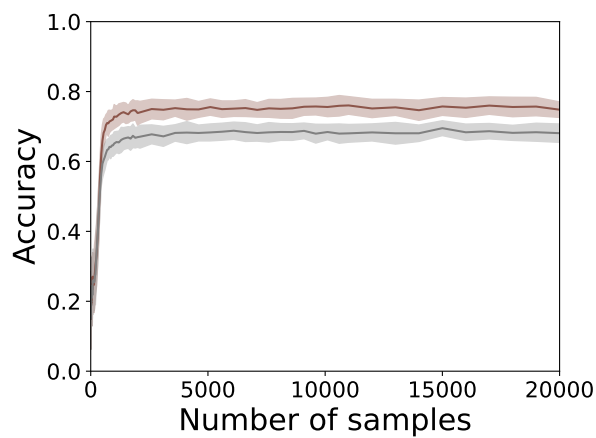
1.42. Ngäbere; $|\mathcal{W}| = 30$



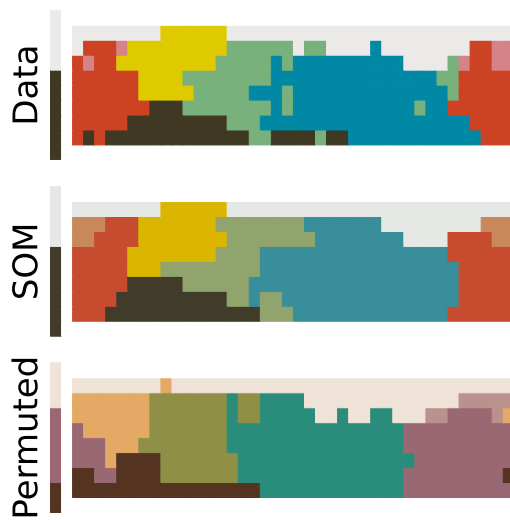
(a) Learning Space



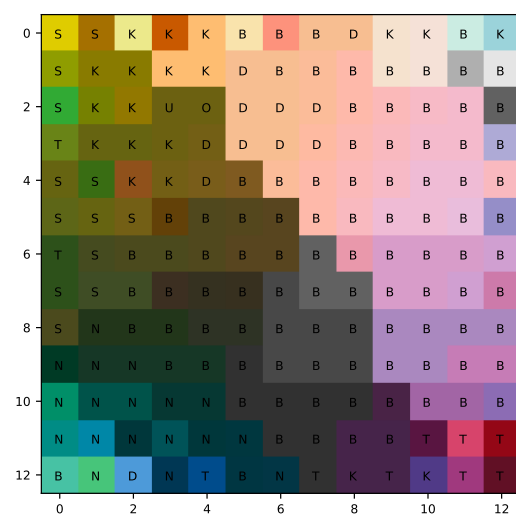
(b) Communicative Space



(c) Accuracy

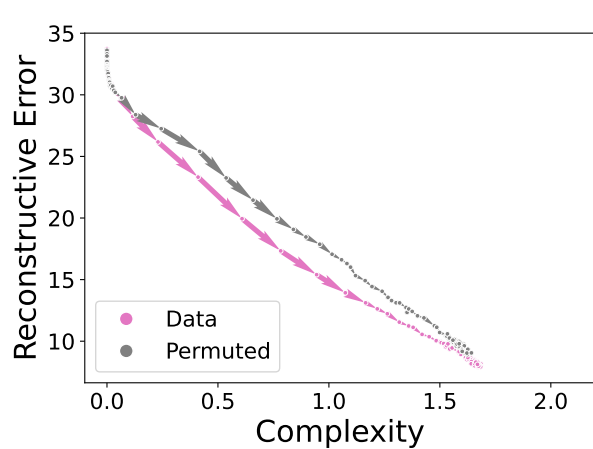


(d) Mode Maps

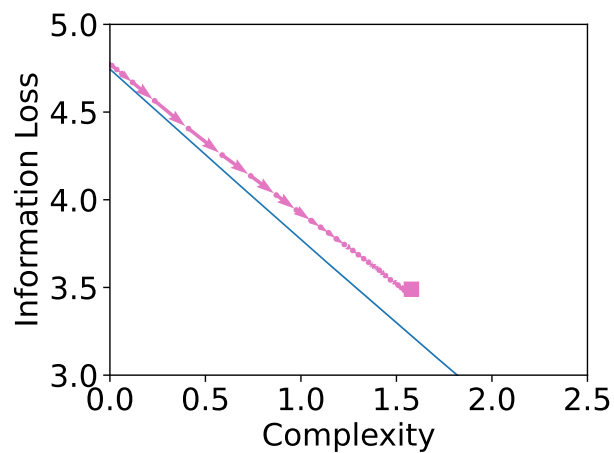


(e) Learnt SOM Cells

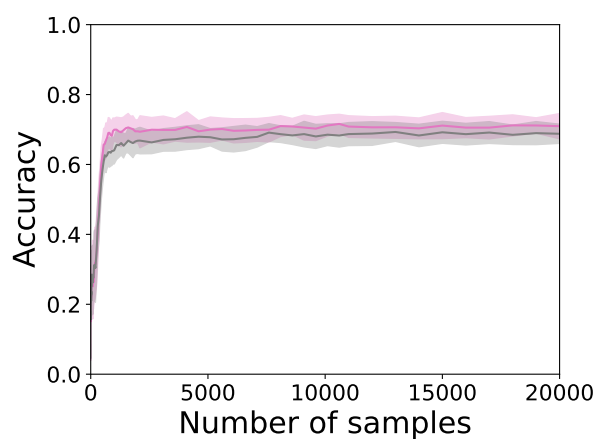
1.43. *Gunu*; $|\mathcal{W}| = 27$



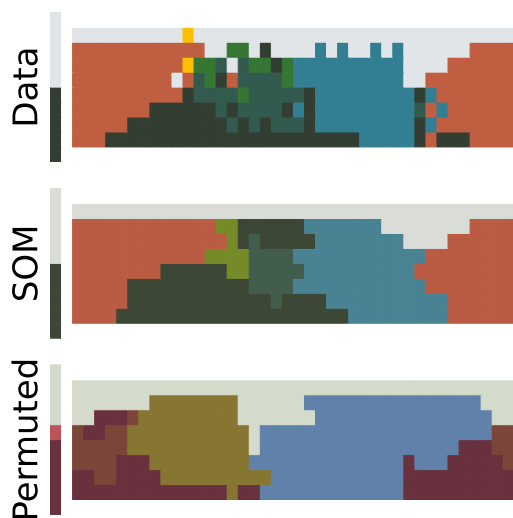
(a) Learning Space



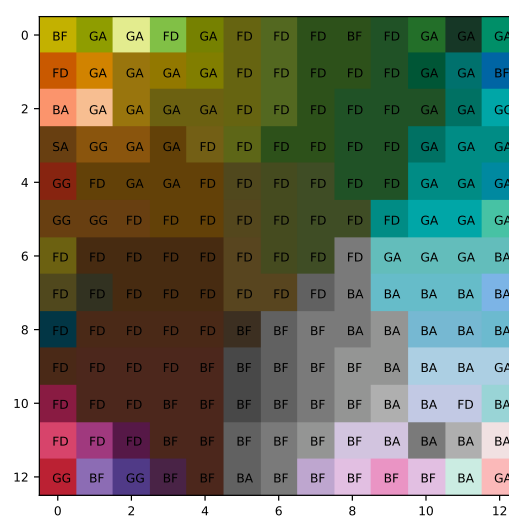
(b) Communicative Space



(c) Accuracy

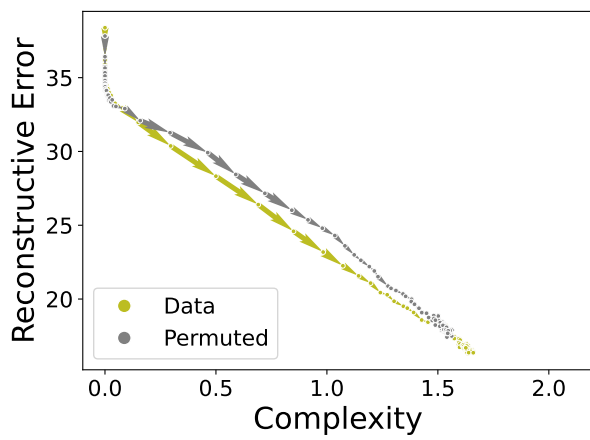


(d) Mode Maps

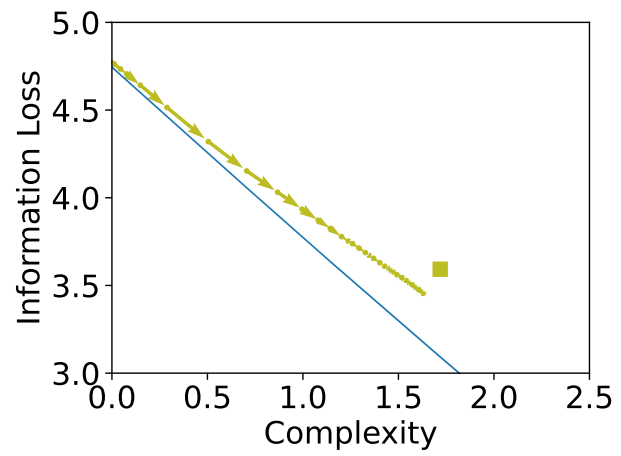


(e) Learnt SOM Cells

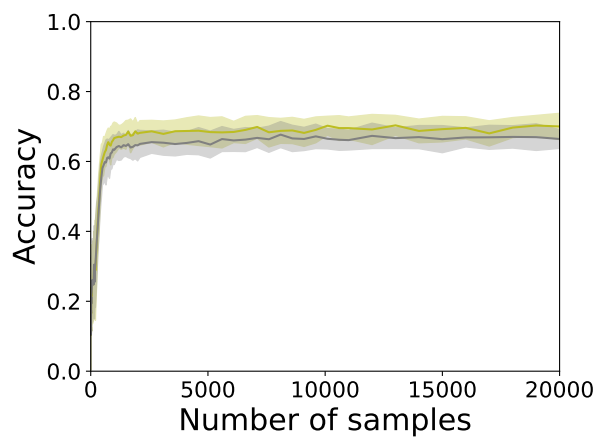
1.44. Halbi; $|\mathcal{W}| = 70$



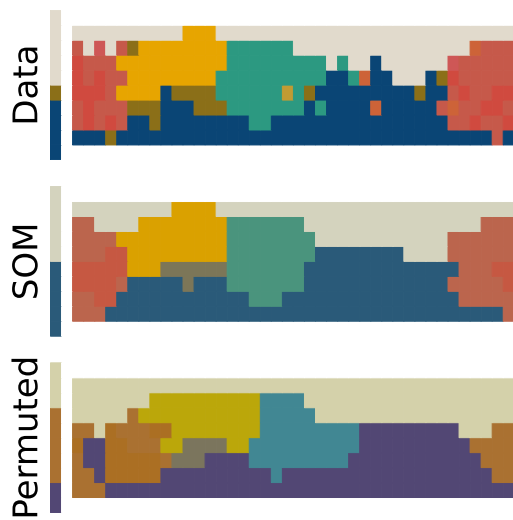
(a) Learning Space



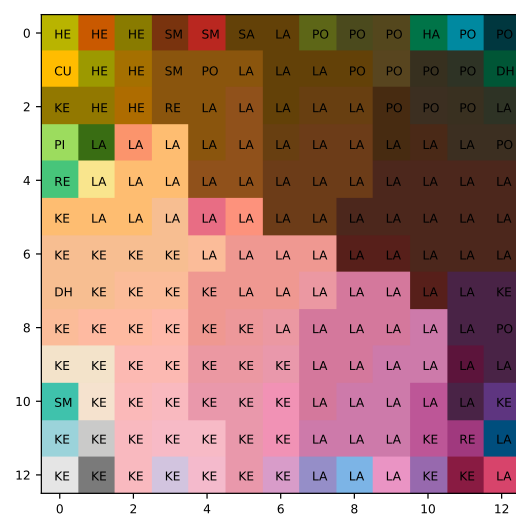
(b) Communicative Space



(c) Accuracy

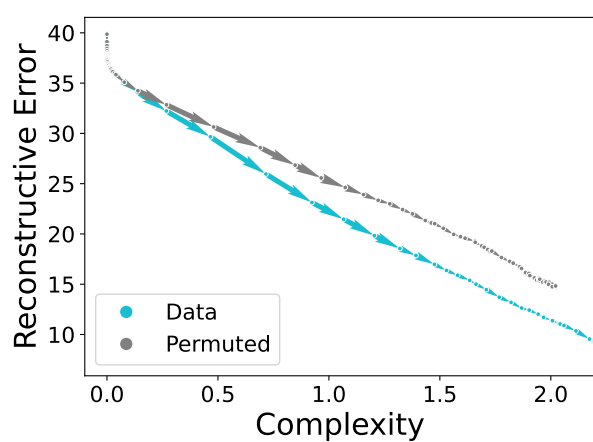


(d) Mode Maps

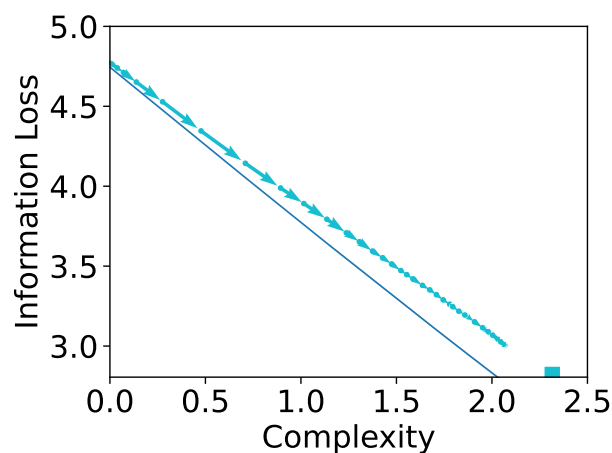


(e) Learnt SOM Cells

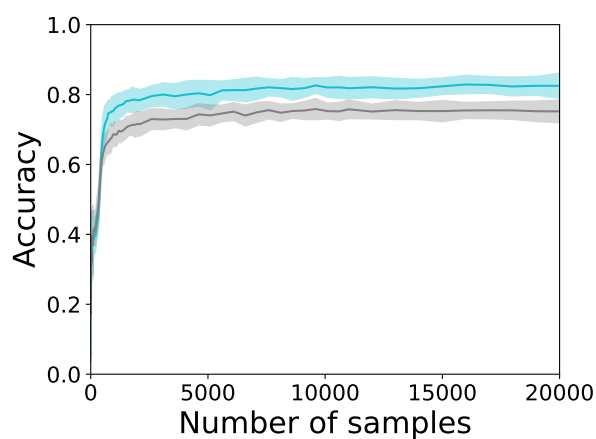
1.45. Huasteco; $|\mathcal{W}| = 13$



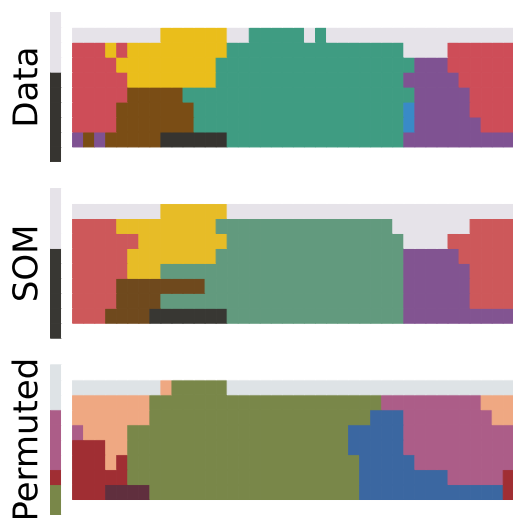
(a) Learning Space



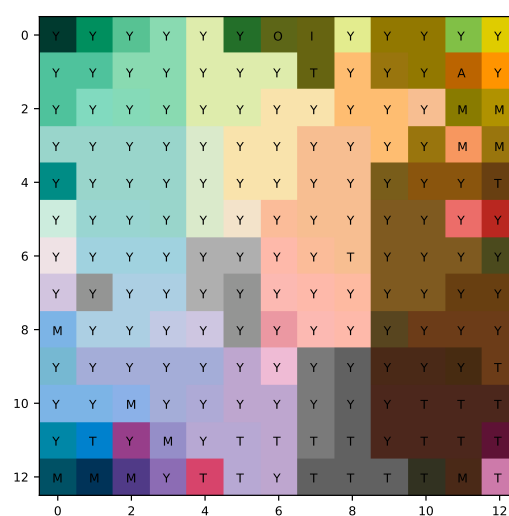
(b) Communicative Space



(c) Accuracy

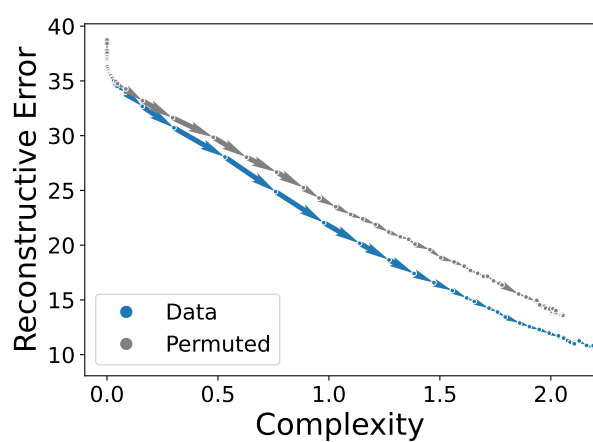


(d) Mode Maps

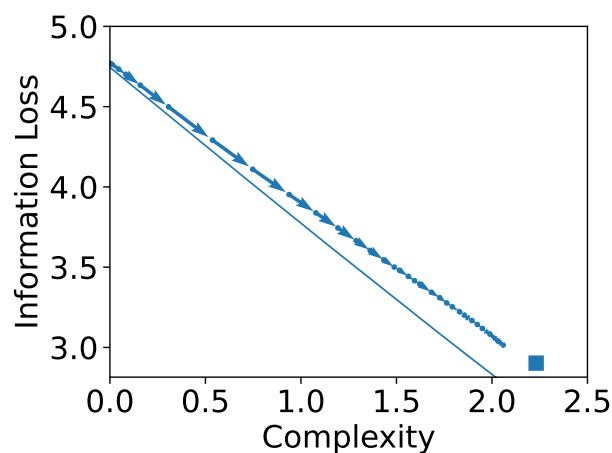


(e) Learnt SOM Cells

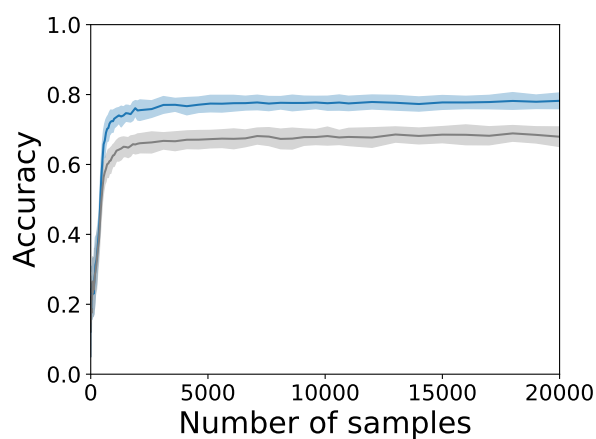
1.46. Huave; $|\mathcal{W}| = 17$



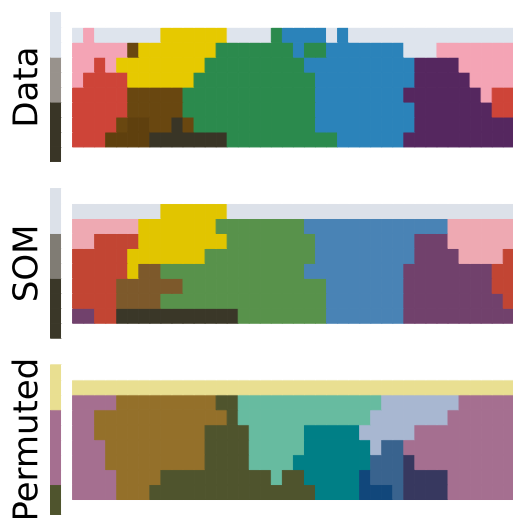
(a) Learning Space



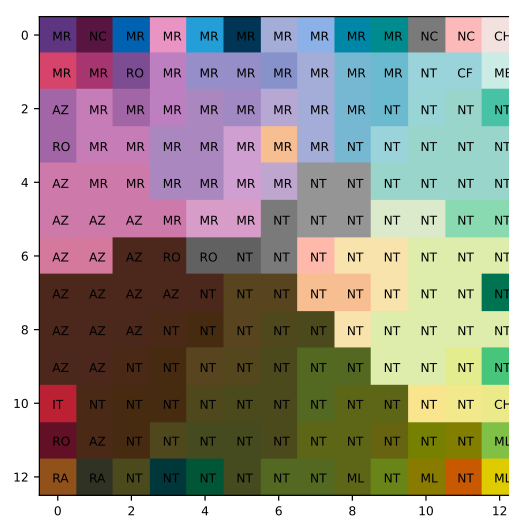
(b) Communicative Space



(c) Accuracy

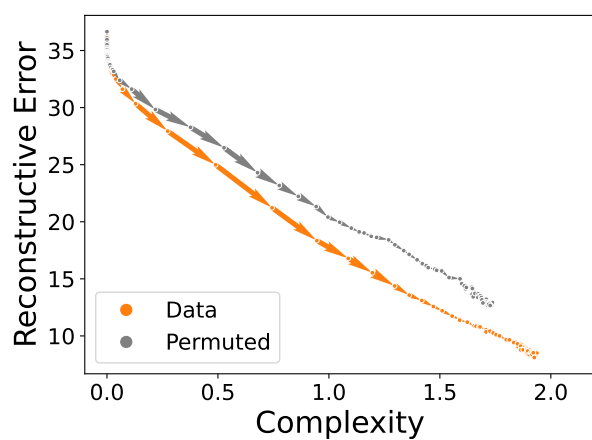


(d) Mode Maps

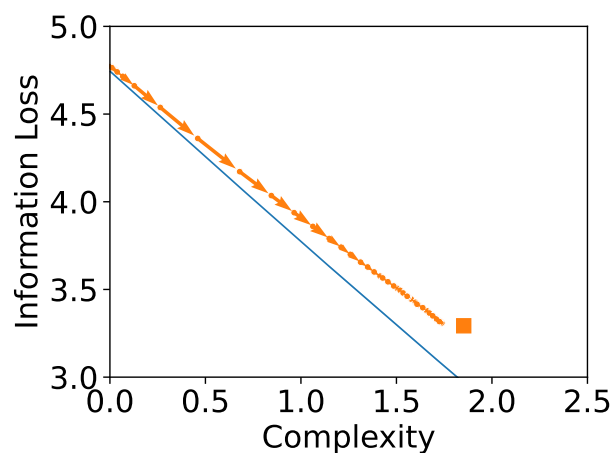


(e) Learnt SOM Cells

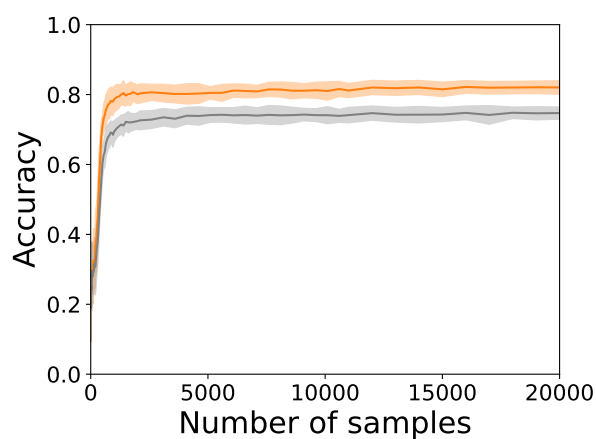
1.47. *Iduna*; $|\mathcal{W}| = 51$



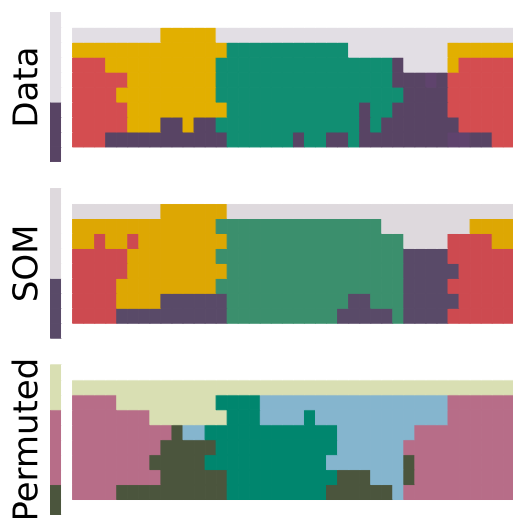
(a) Learning Space



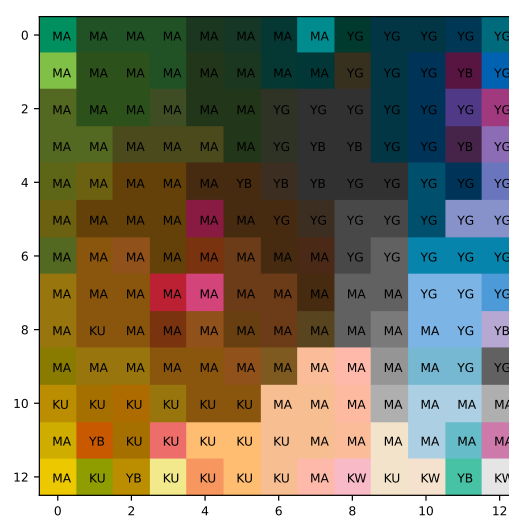
(b) Communicative Space



(c) Accuracy

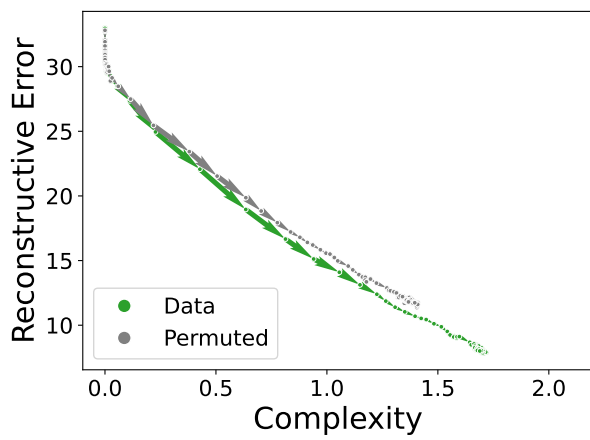


(d) Mode Maps

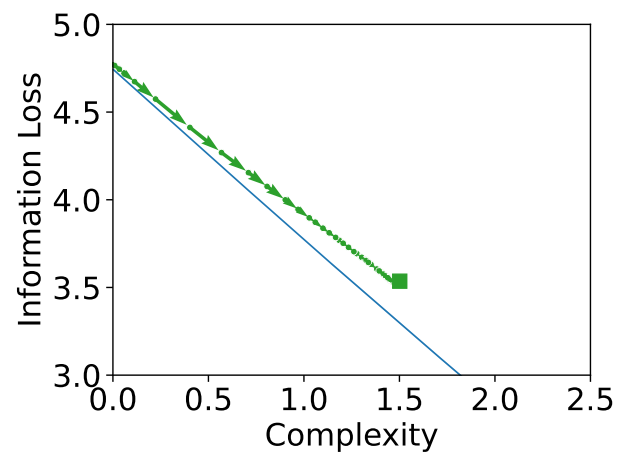


(e) Learnt SOM Cells

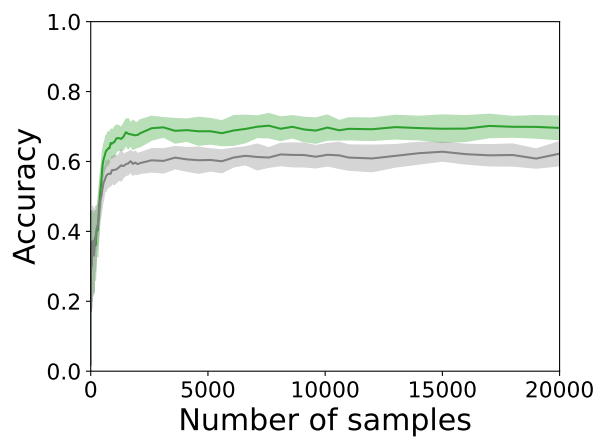
1.48. *Ifugao*; $|\mathcal{W}| = 23$



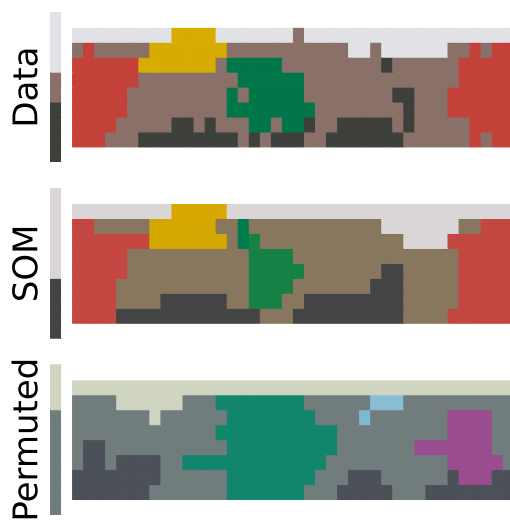
(a) Learning Space



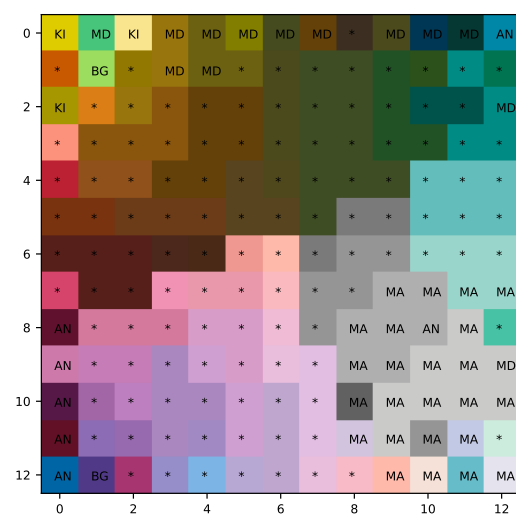
(b) Communicative Space



(c) Accuracy

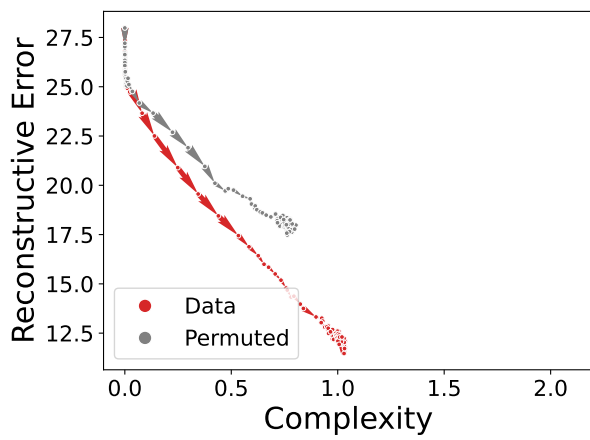


(d) Mode Maps

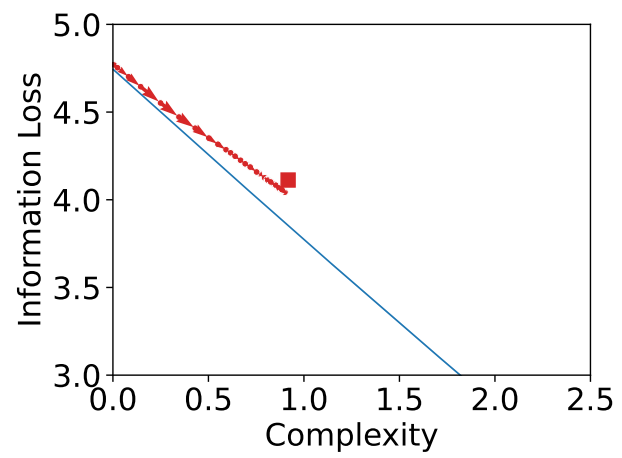


(e) Learnt SOM Cells

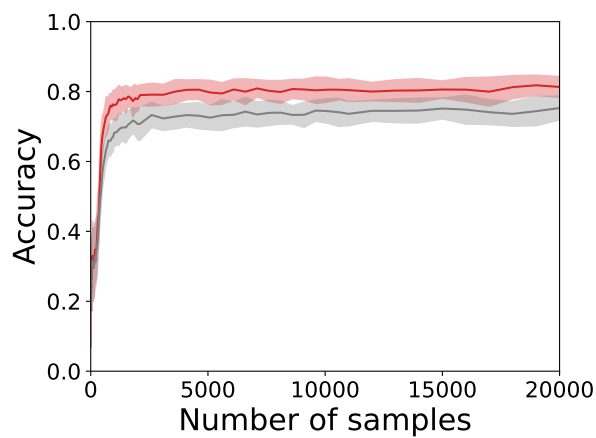
1.49. *Sepik Iwam*; $|\mathcal{W}| = 11$



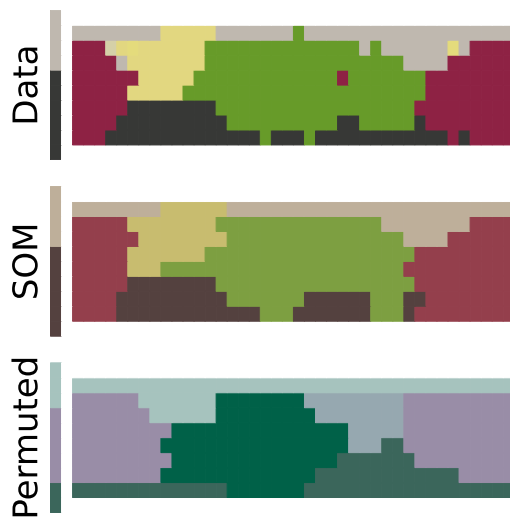
(a) Learning Space



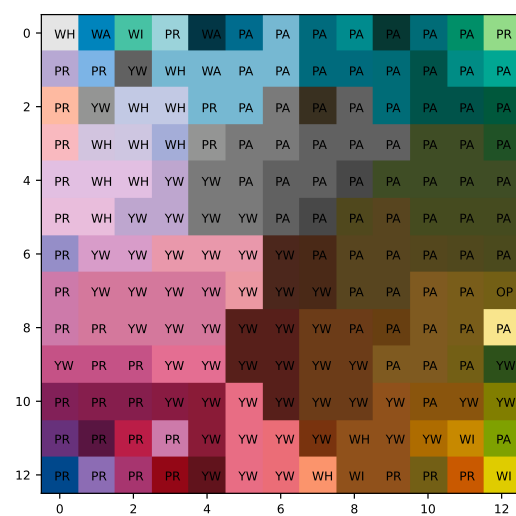
(b) Communicative Space



(c) Accuracy

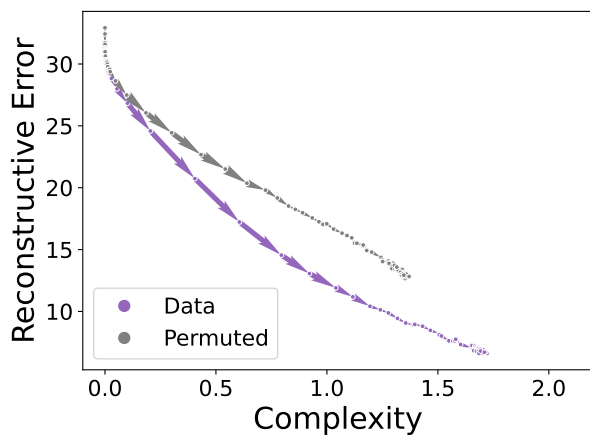


(d) Mode Maps

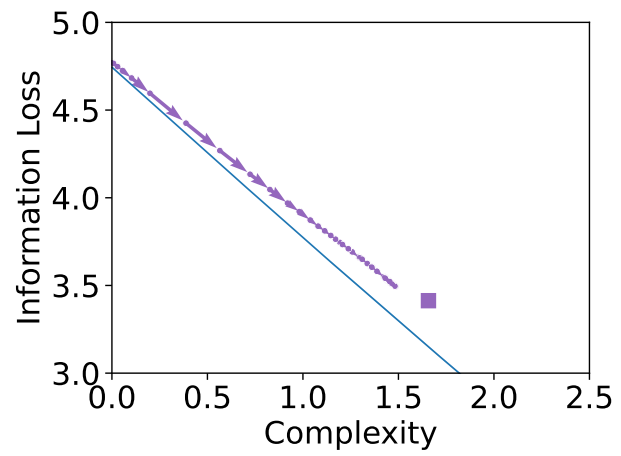


(e) Learnt SOM Cells

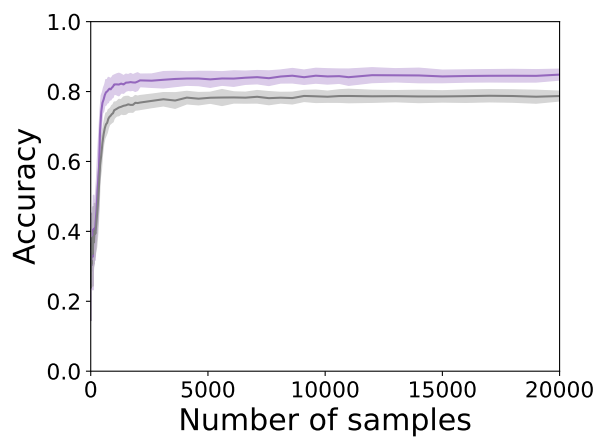
1.50. Jicaque; $|\mathcal{W}| = 10$



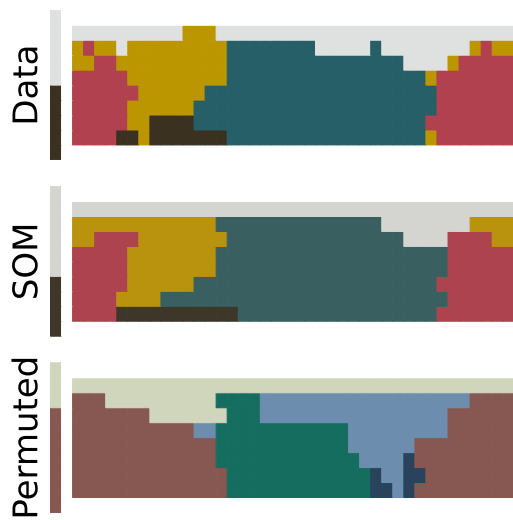
(a) Learning Space



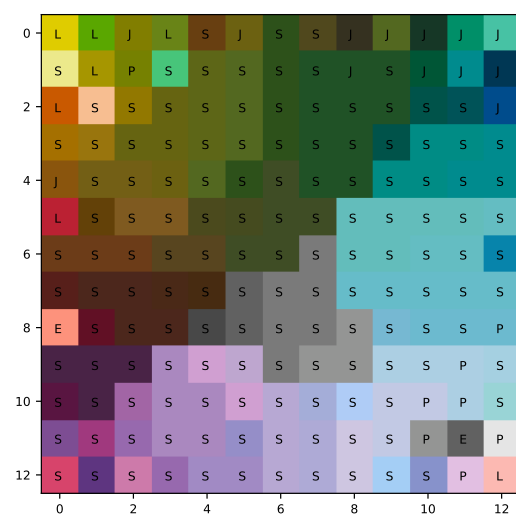
(b) Communicative Space



(c) Accuracy

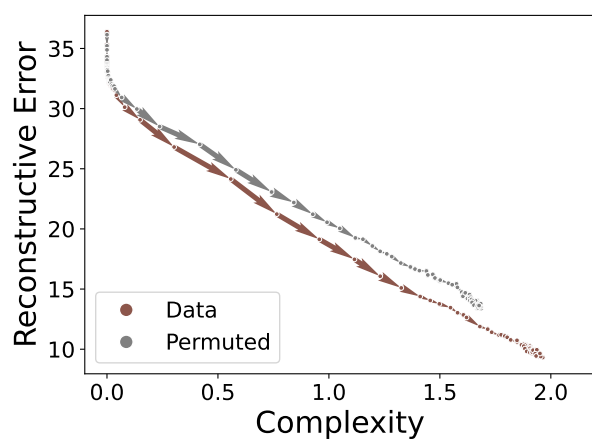


(d) Mode Maps

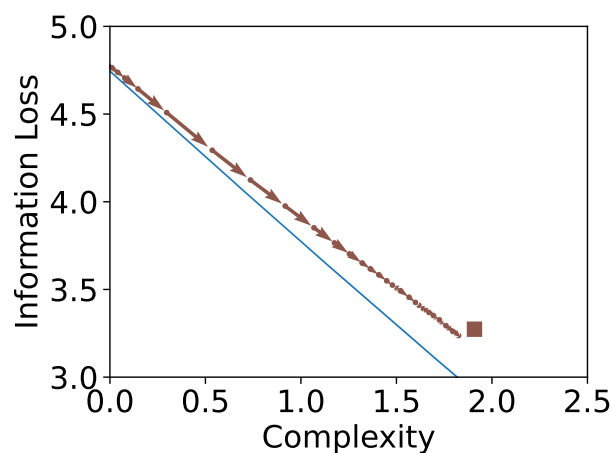


(e) Learnt SOM Cells

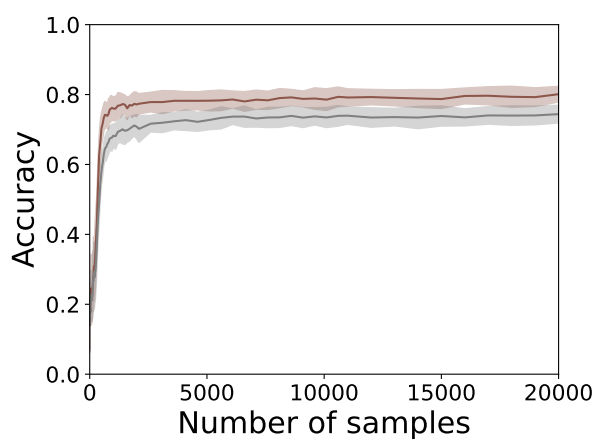
1.51. Kalam; $|\mathcal{W}| = 67$



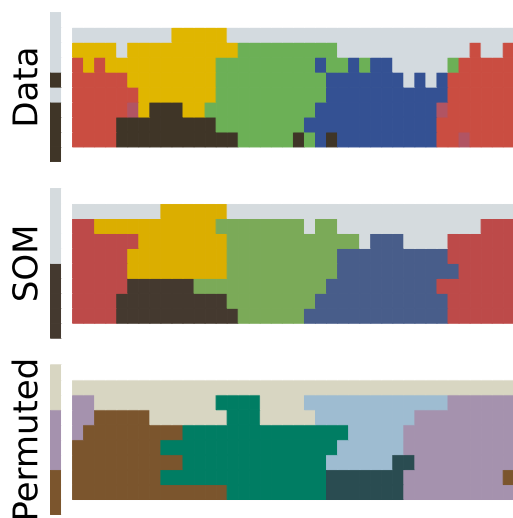
(a) Learning Space



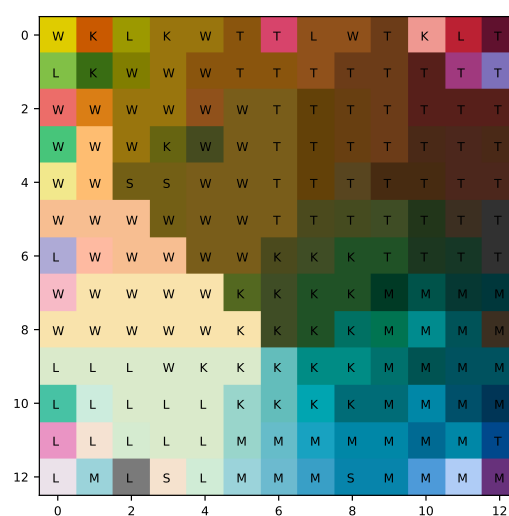
(b) Communicative Space



(c) Accuracy

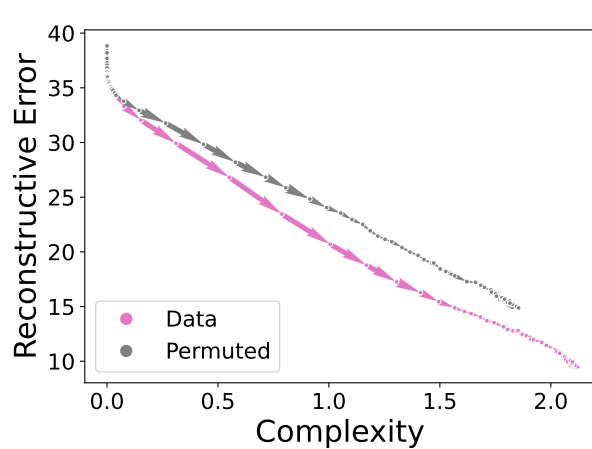


(d) Mode Maps

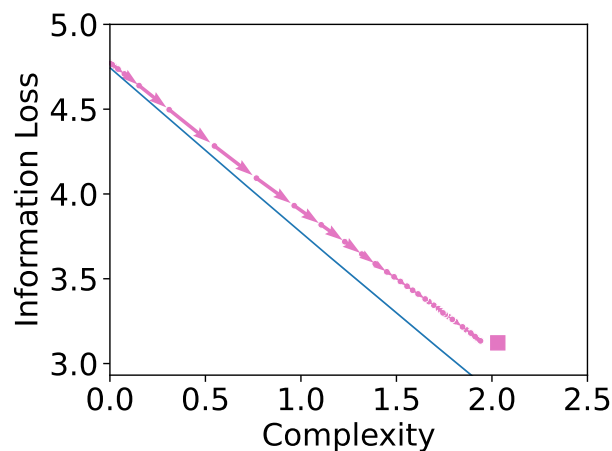


(e) Learnt SOM Cells

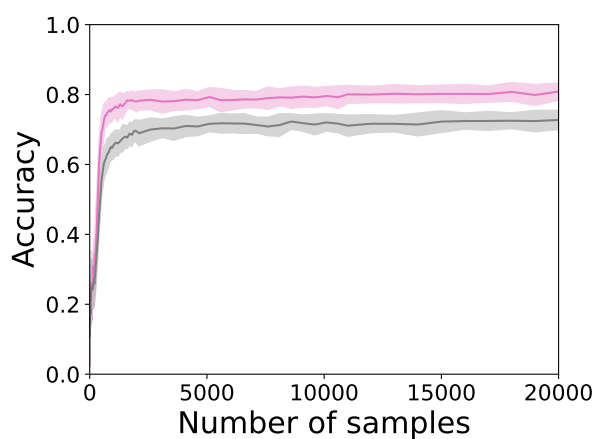
1.52. Kamano-Kafe; $|\mathcal{W}| = 33$



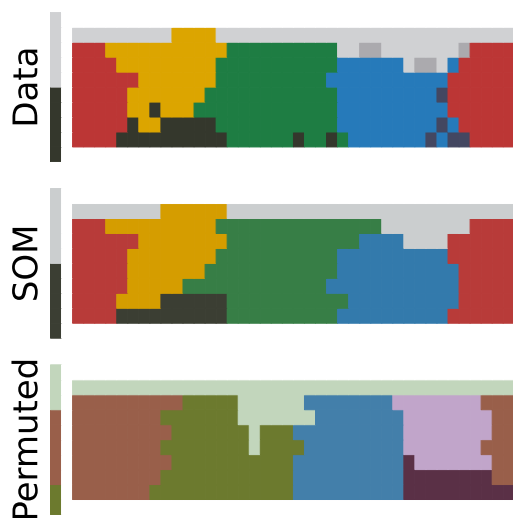
(a) Learning Space



(b) Communicative Space



(c) Accuracy

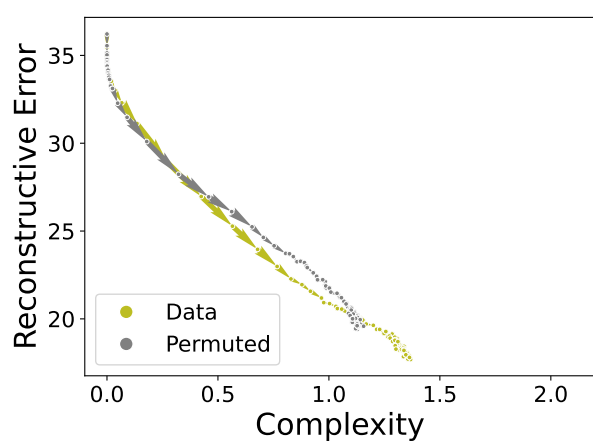


(d) Mode Maps

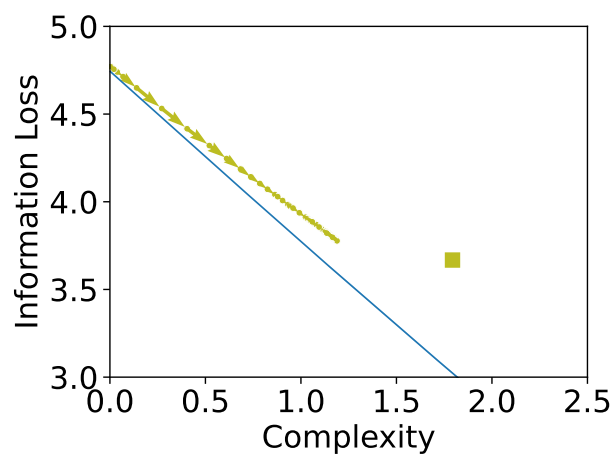


(e) Learnt SOM Cells

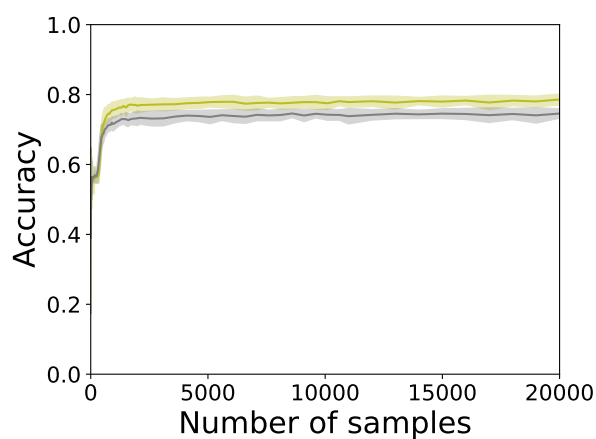
1.53. Karaja; $|\mathcal{W}| = 10$



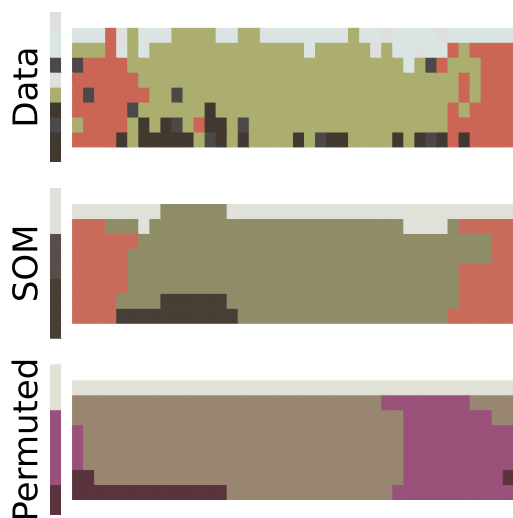
(a) Learning Space



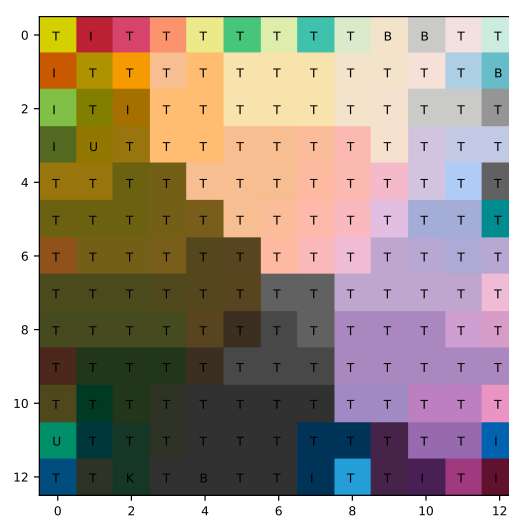
(b) Communicative Space



(c) Accuracy

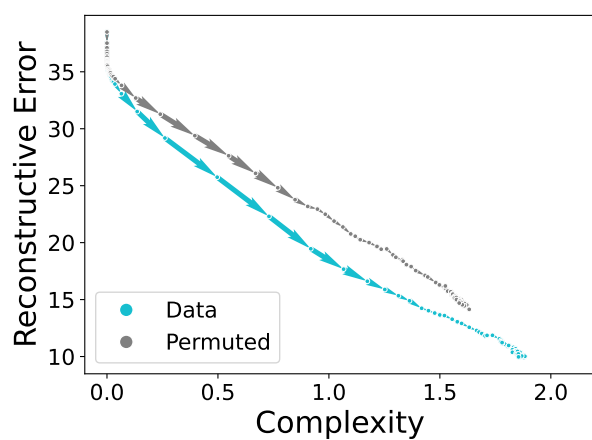


(d) Mode Maps

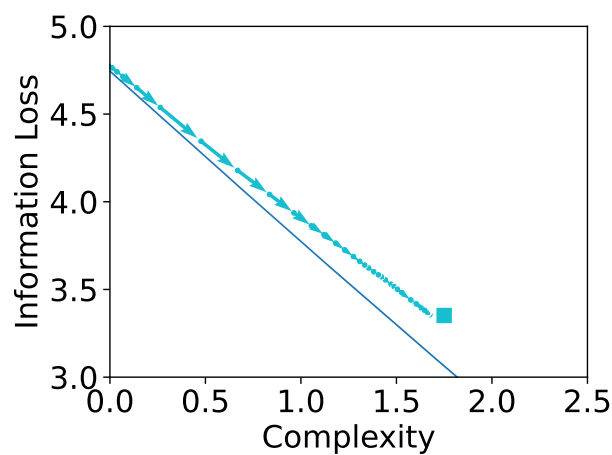


(e) Learnt SOM Cells

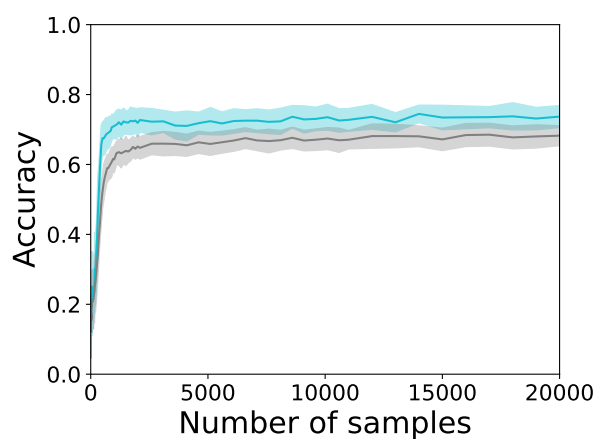
1.54. Kemtuik; $|\mathcal{W}| = 25$



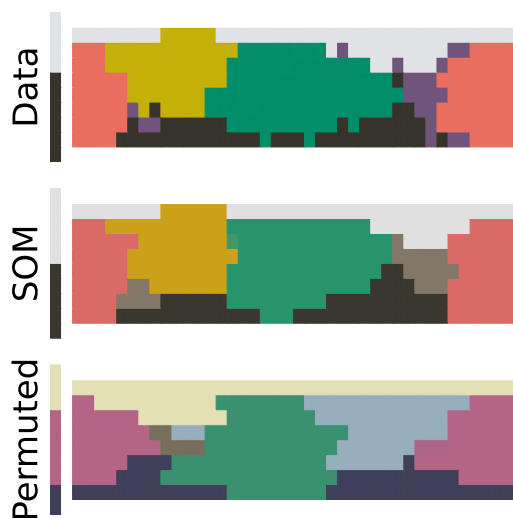
(a) Learning Space



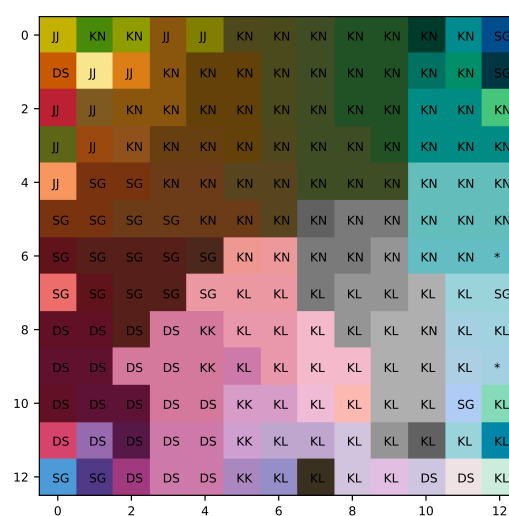
(b) Communicative Space



(c) Accuracy

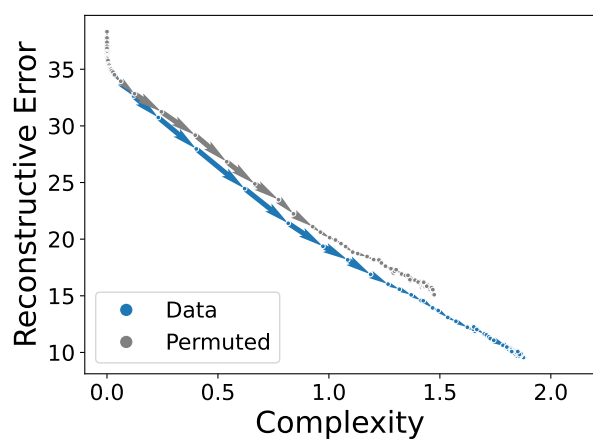


(d) Mode Maps

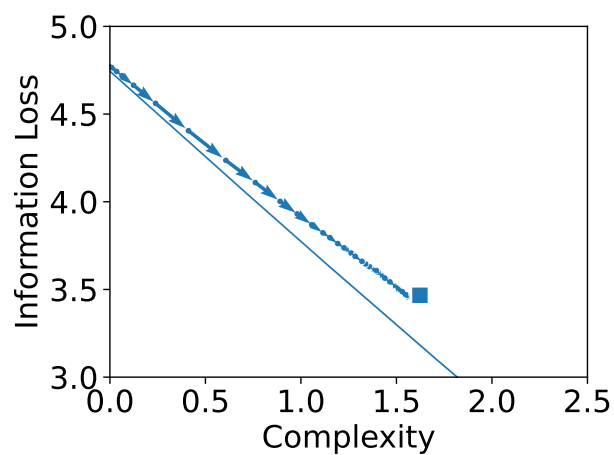


(e) Learnt SOM Cells

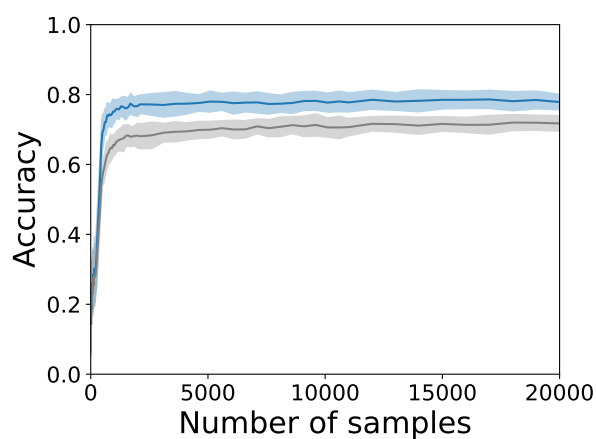
1.55. Kokoni; $|\mathcal{W}| = 11$



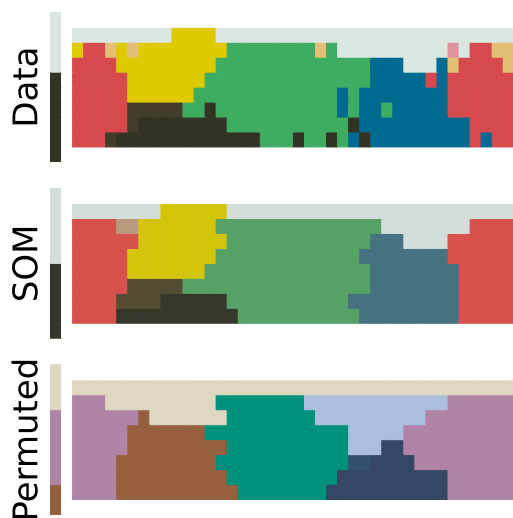
(a) Learning Space



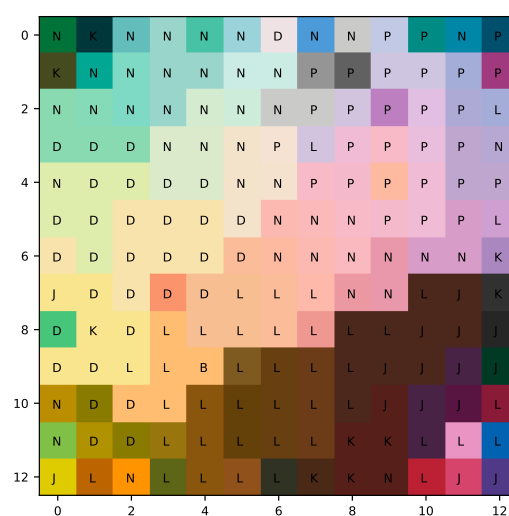
(b) Communicative Space



(c) Accuracy

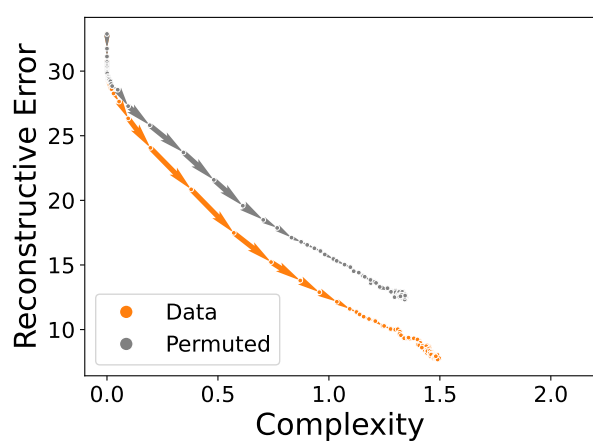


(d) Mode Maps

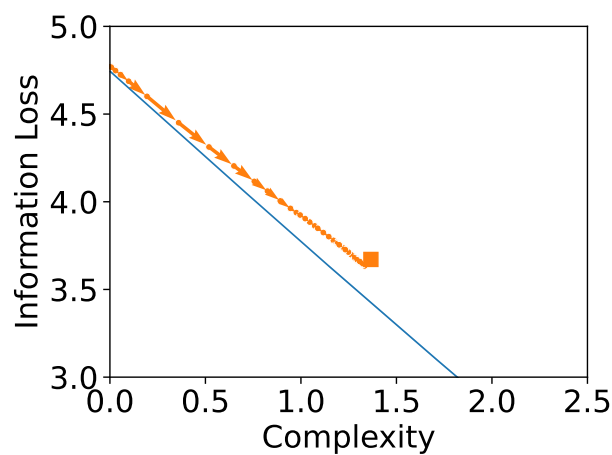


(e) Learnt SOM Cells

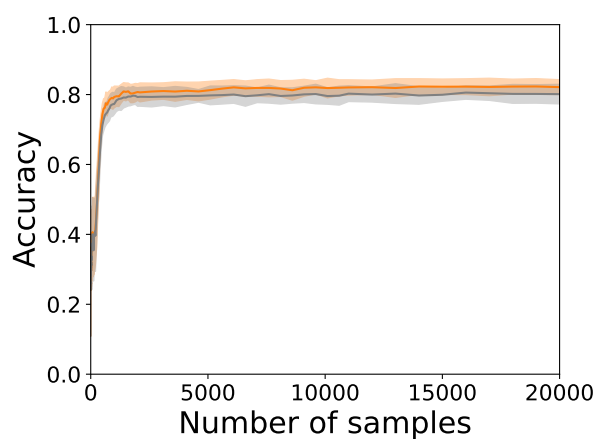
1.56. Konkomba; $|\mathcal{W}| = 21$



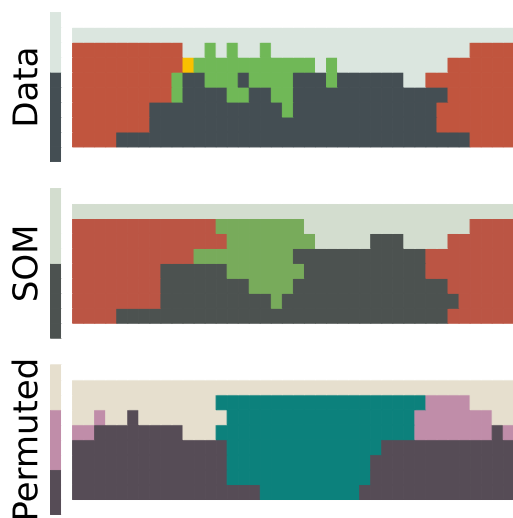
(a) Learning Space



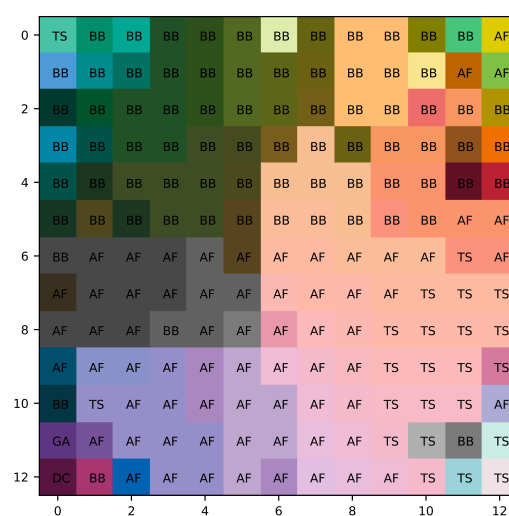
(b) Communicative Space



(c) Accuracy

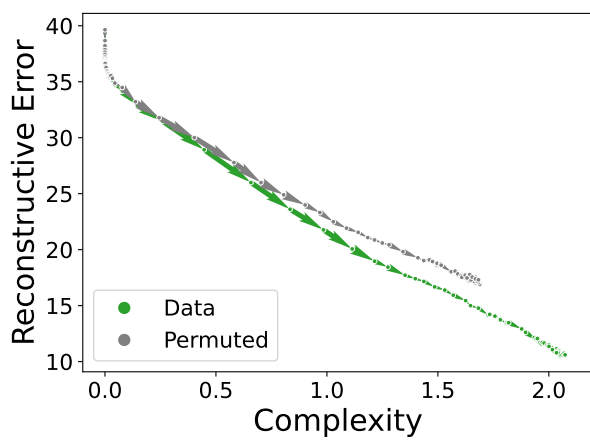


(d) Mode Maps

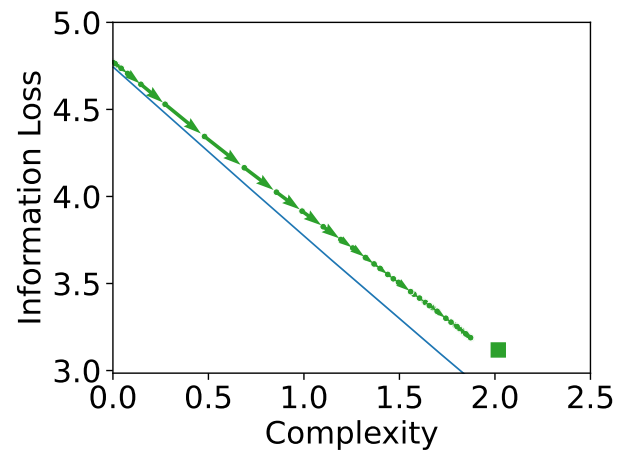


(e) Learnt SOM Cells

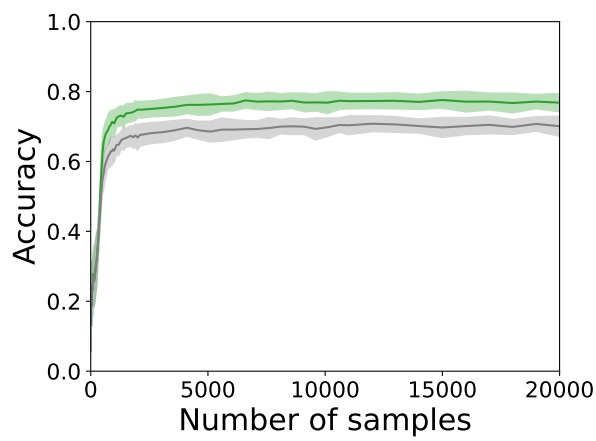
1.57. Kriol; $|\mathcal{W}| = 25$



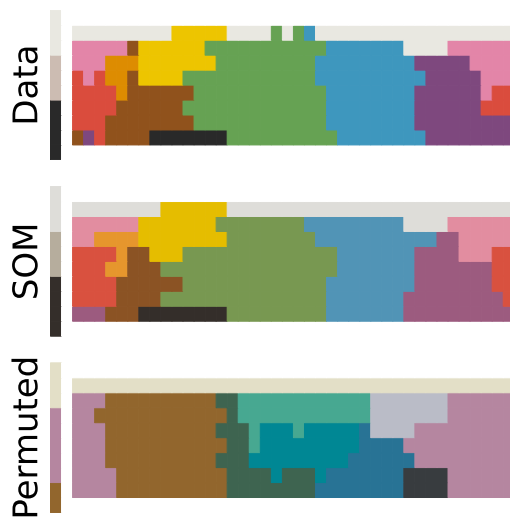
(a) Learning Space



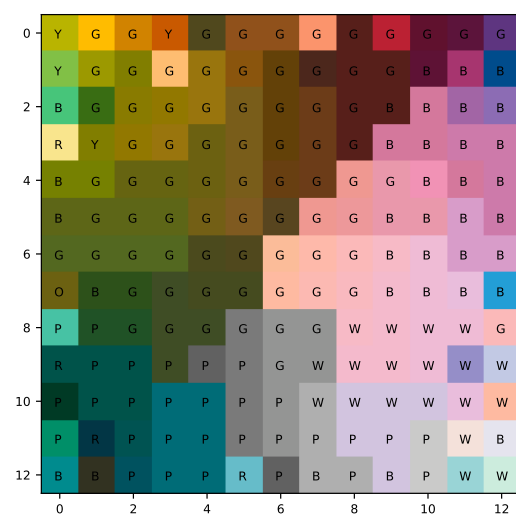
(b) Communicative Space



(c) Accuracy

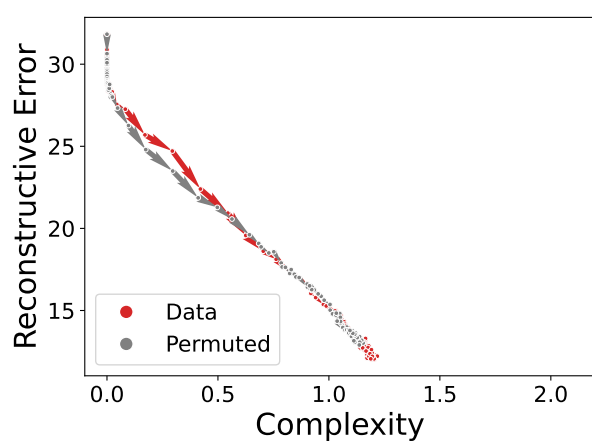


(d) Mode Maps

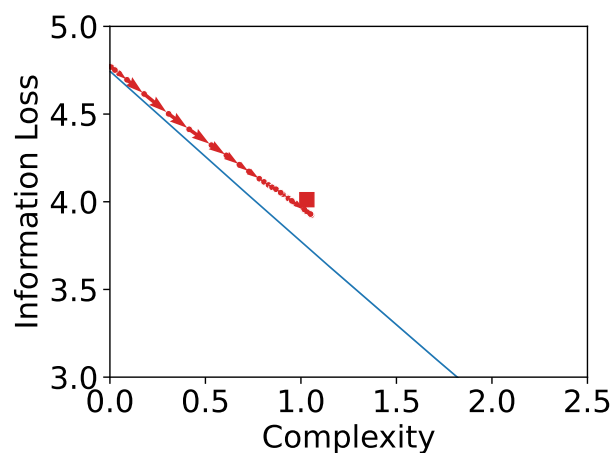


(e) Learnt SOM Cells

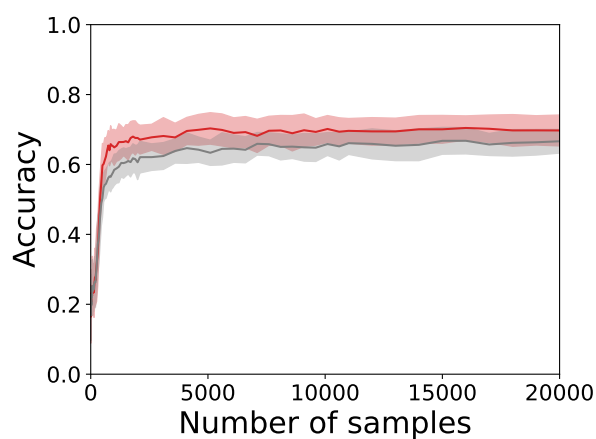
1.58. Kuku-Yalanji; $|\mathcal{W}| = 17$



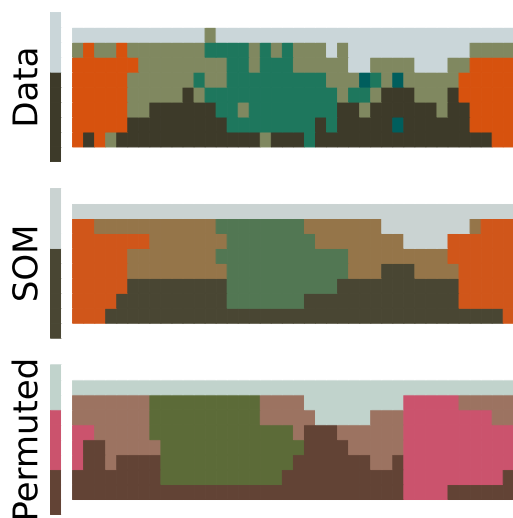
(a) Learning Space



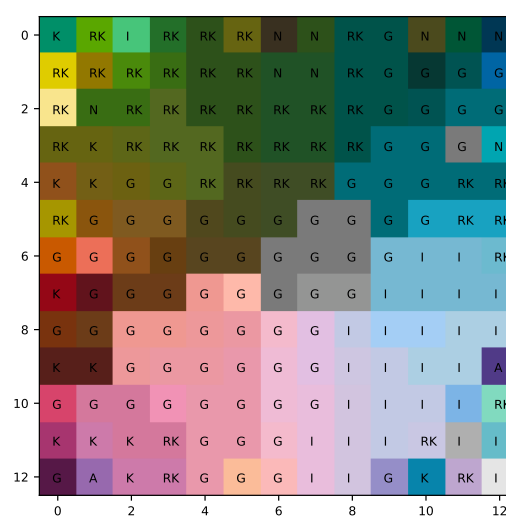
(b) Communicative Space



(c) Accuracy

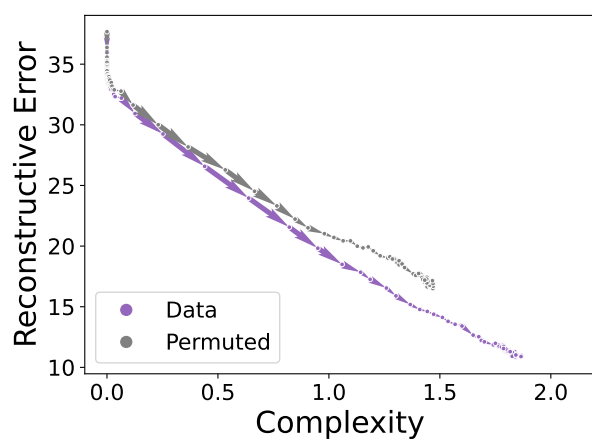


(d) Mode Maps

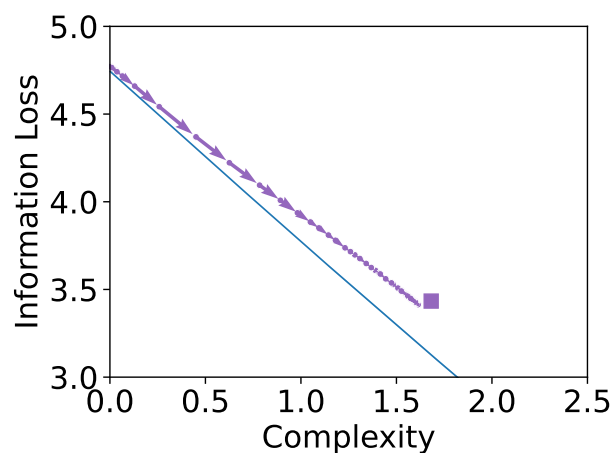


(e) Learnt SOM Cells

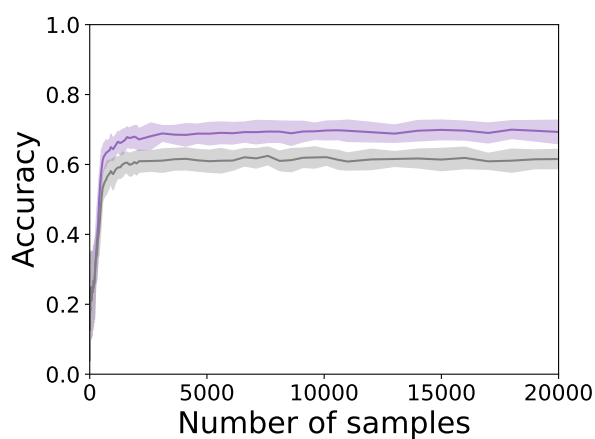
1.59. Long-haired Kuna; $|\mathcal{W}| = 46$



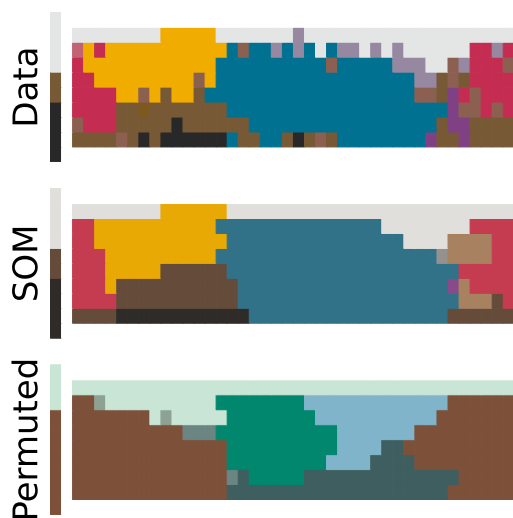
(a) Learning Space



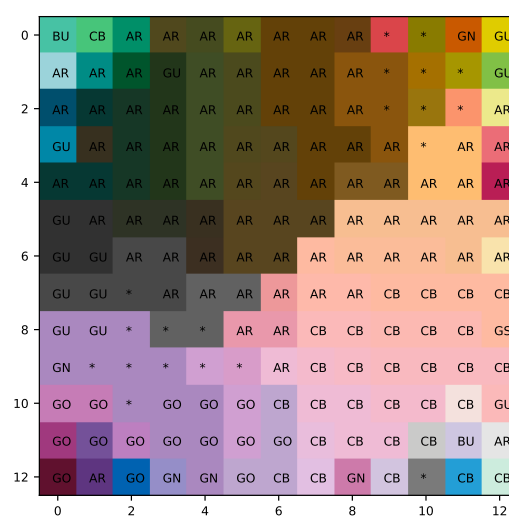
(b) Communicative Space



(c) Accuracy

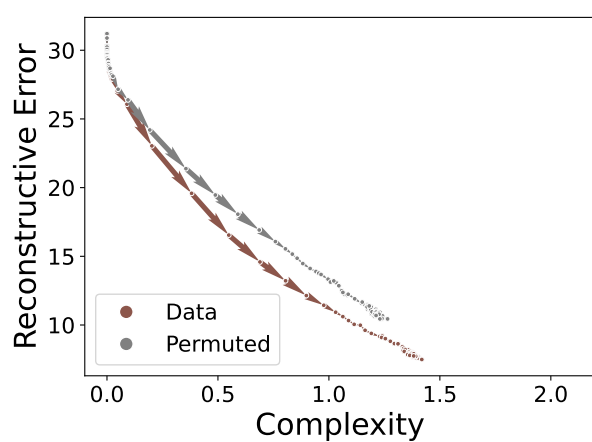


(d) Mode Maps

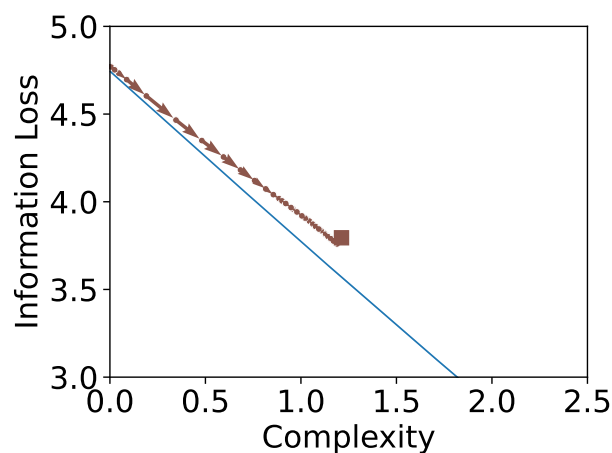


(e) Learnt SOM Cells

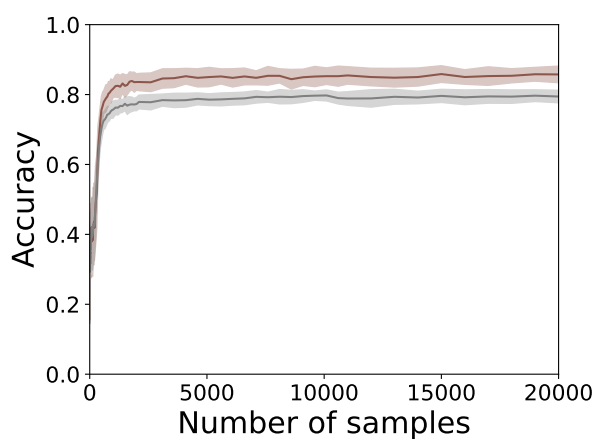
1.60. Kwerba; $|\mathcal{W}| = 22$



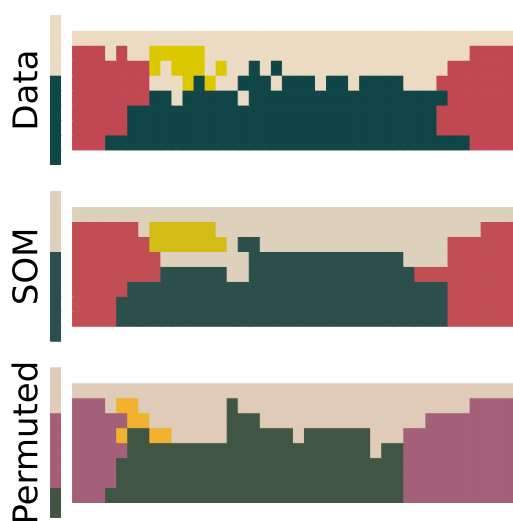
(a) Learning Space



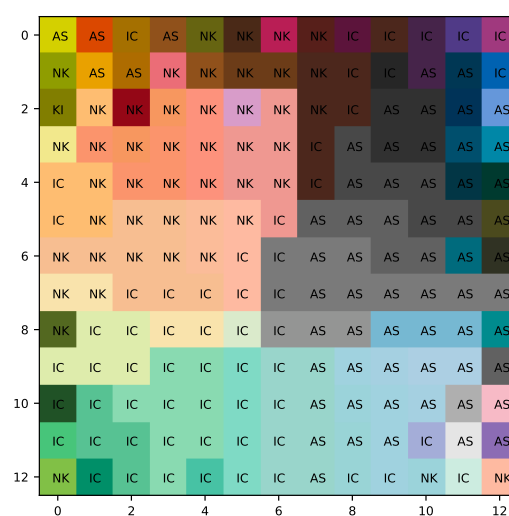
(b) Communicative Space



(c) Accuracy

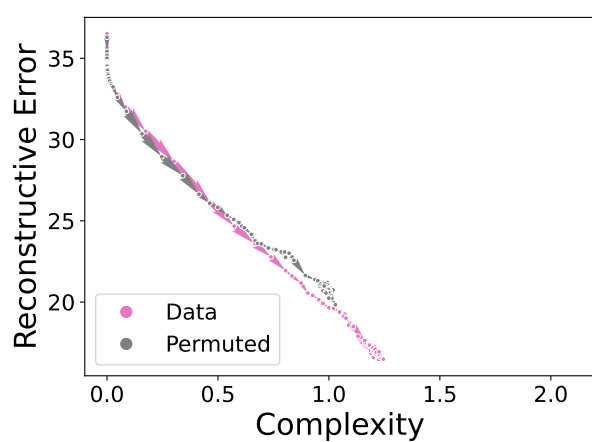


(d) Mode Maps

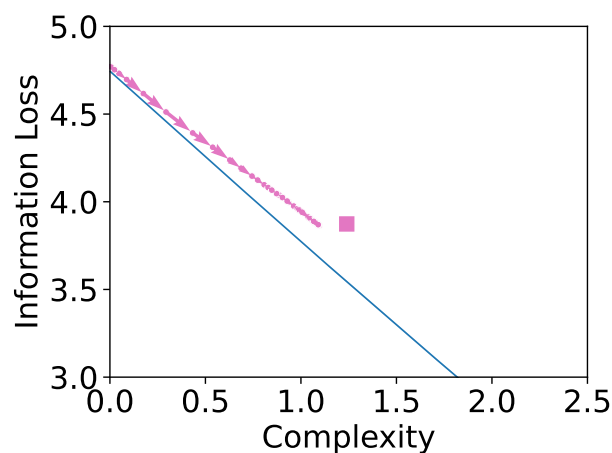


(e) Learnt SOM Cells

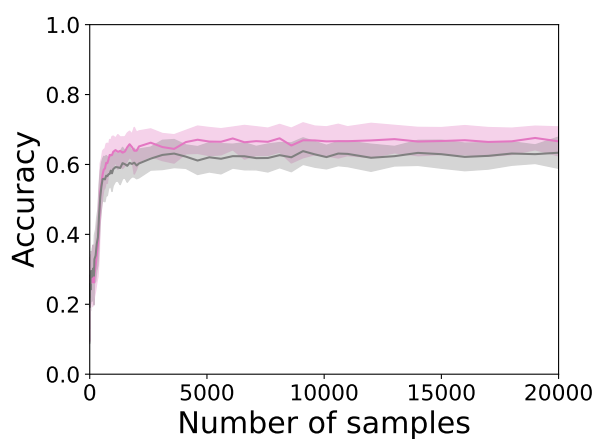
1.61. *Lele*; $|\mathcal{W}| = 20$



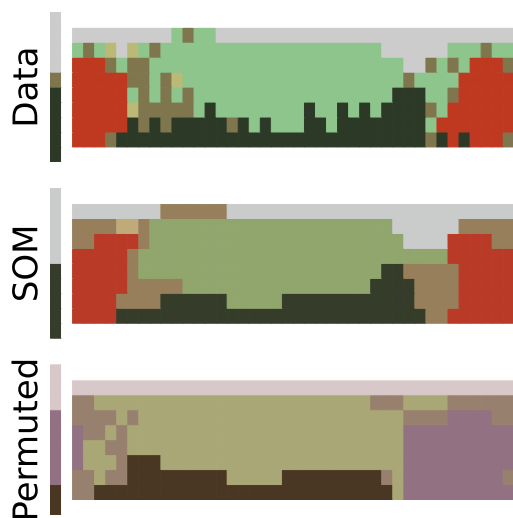
(a) Learning Space



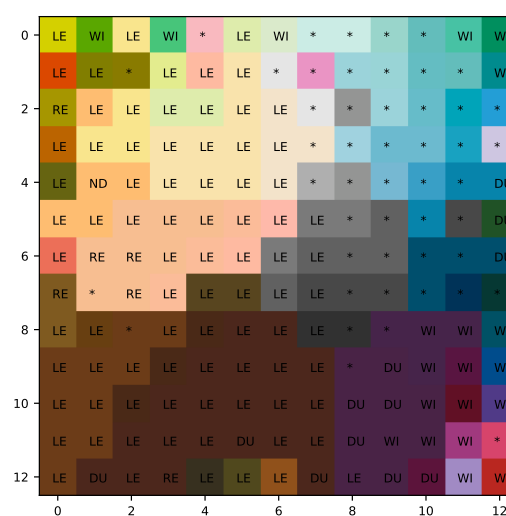
(b) Communicative Space



(c) Accuracy

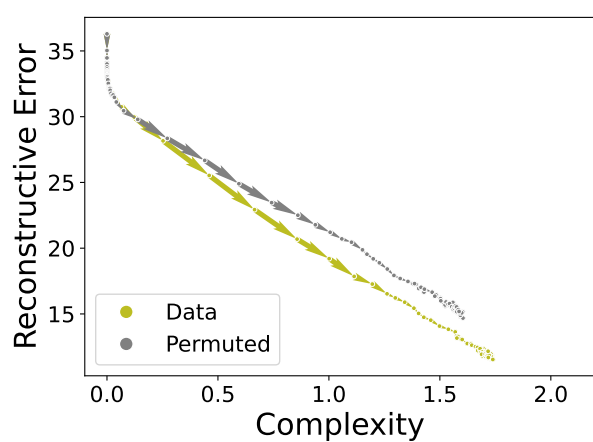


(d) Mode Maps

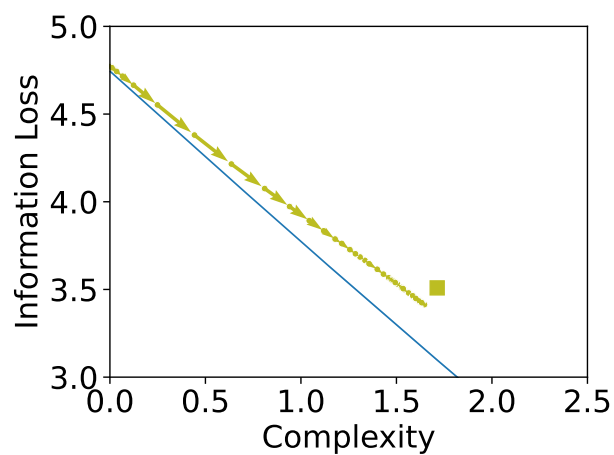


(e) Learnt SOM Cells

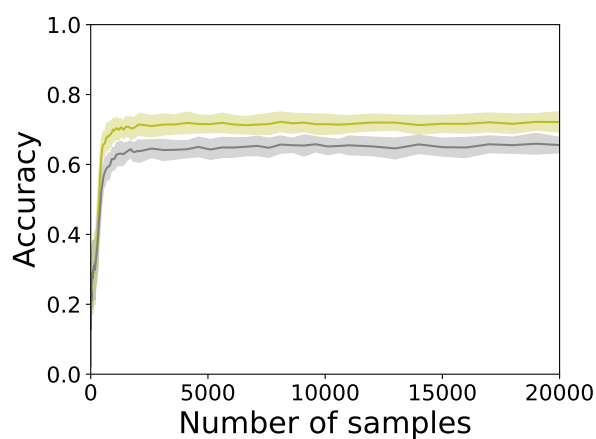
1.62. Mampruli; $|\mathcal{W}| = 80$



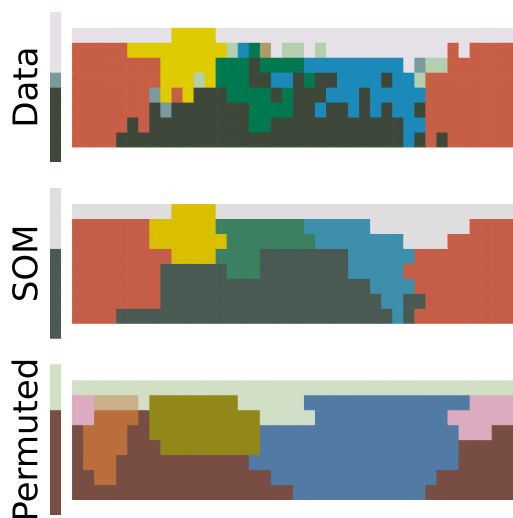
(a) Learning Space



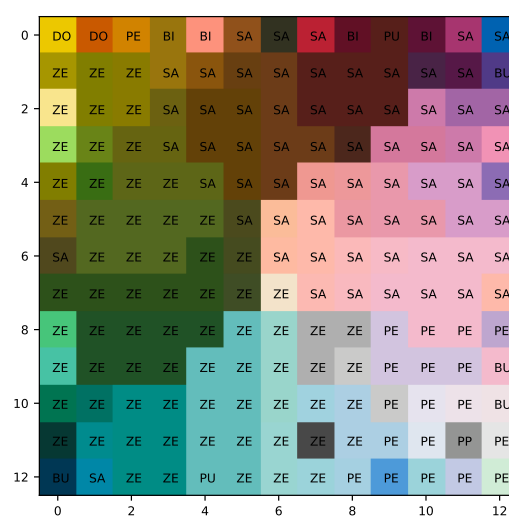
(b) Communicative Space



(c) Accuracy

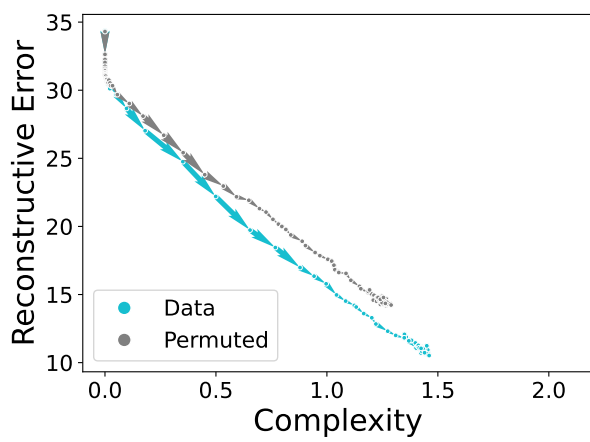


(d) Mode Maps

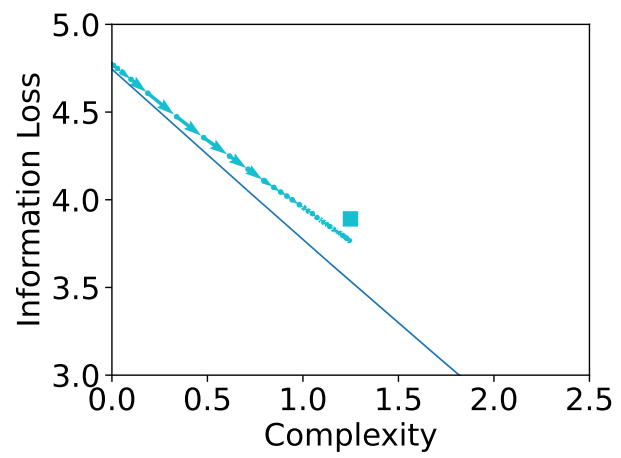


(e) Learnt SOM Cells

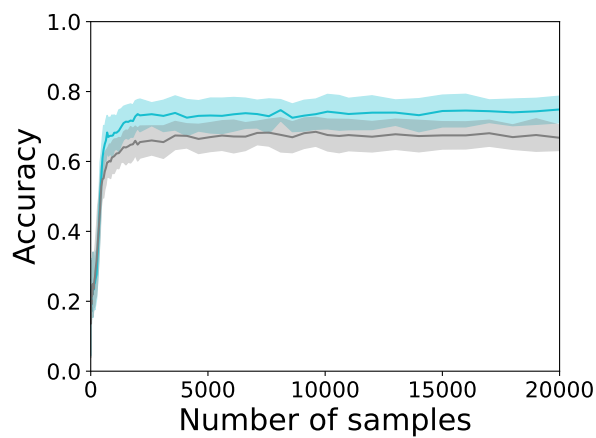
1.63. Maring; $|\mathcal{W}| = 33$



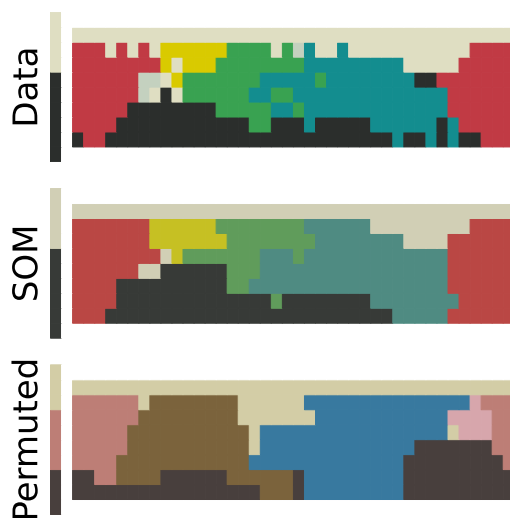
(a) Learning Space



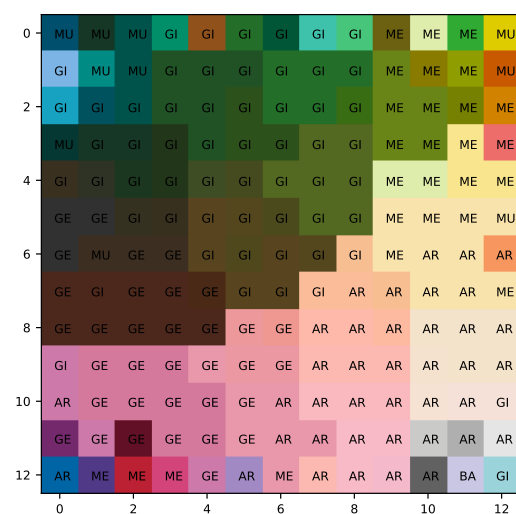
(b) Communicative Space



(c) Accuracy

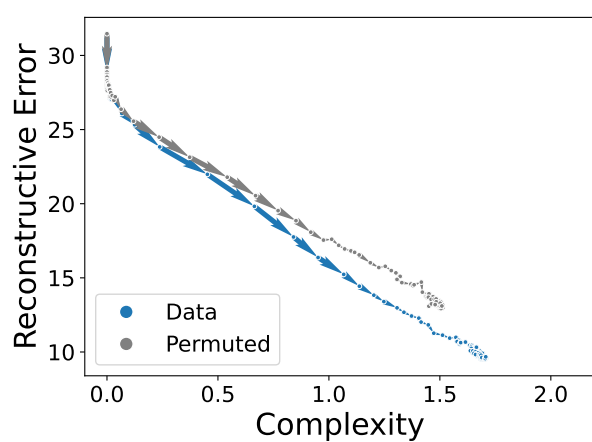


(d) Mode Maps

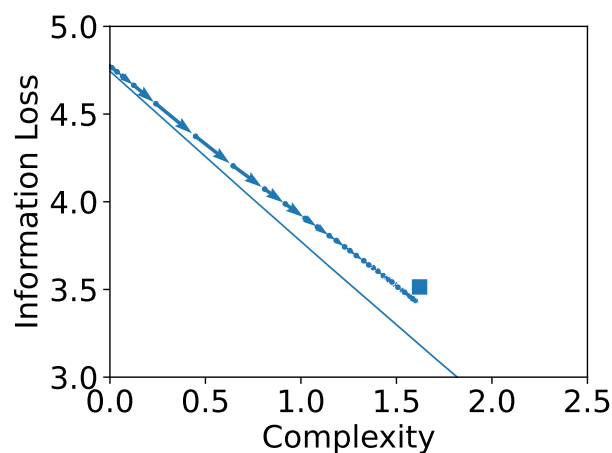


(e) Learnt SOM Cells

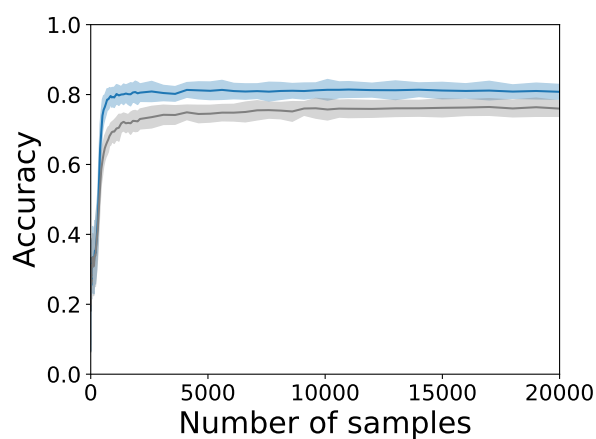
1.64. Martu Wangka; $|\mathcal{W}| = 45$



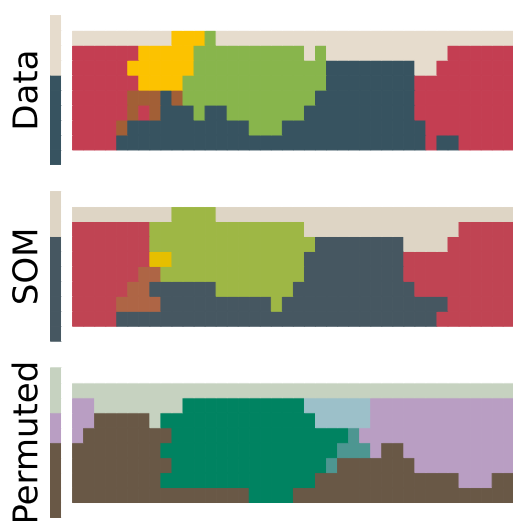
(a) Learning Space



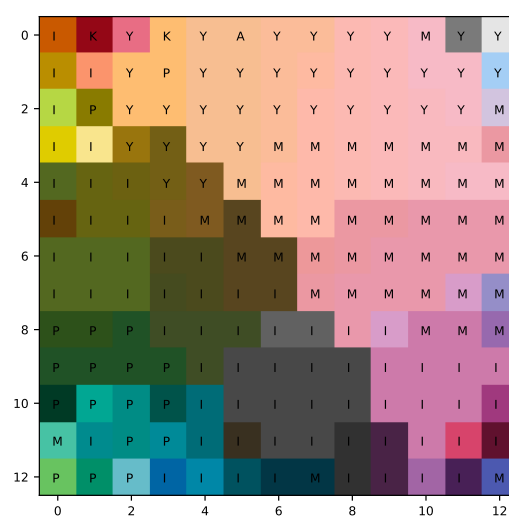
(b) Communicative Space



(c) Accuracy

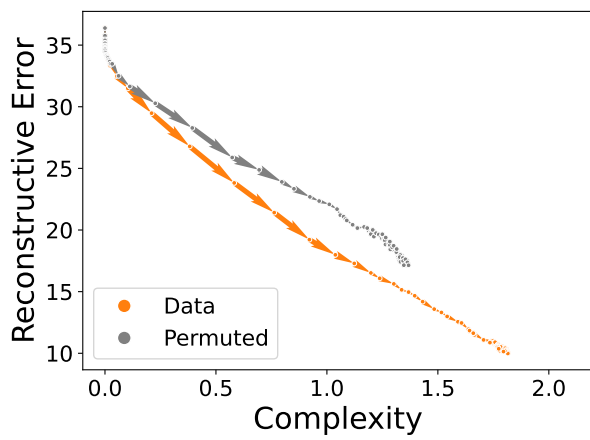


(d) Mode Maps

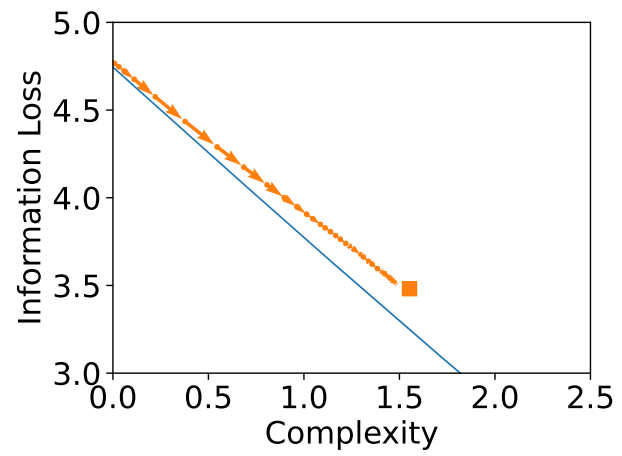


(e) Learnt SOM Cells

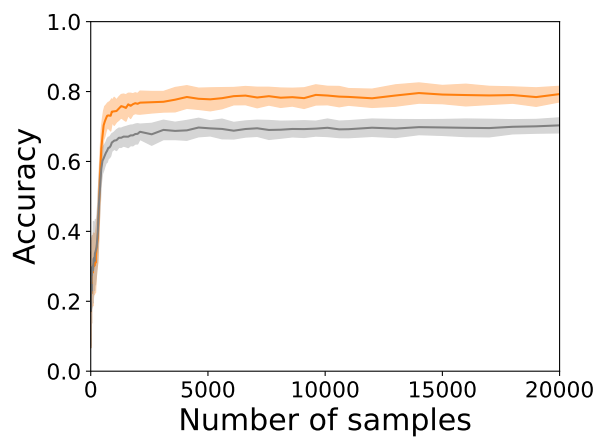
1.65. *Mawchi*; $|\mathcal{W}| = 9$



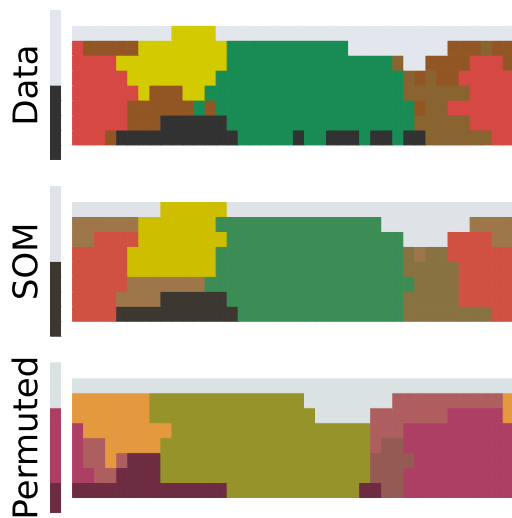
(a) Learning Space



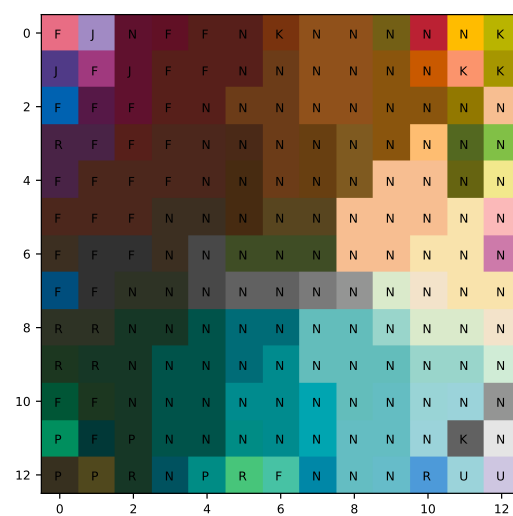
(b) Communicative Space



(c) Accuracy

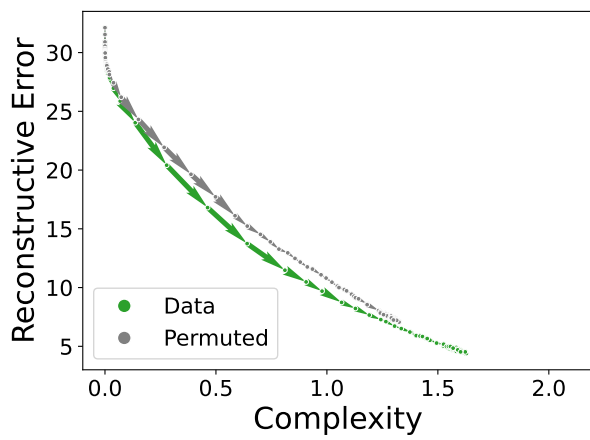


(d) Mode Maps

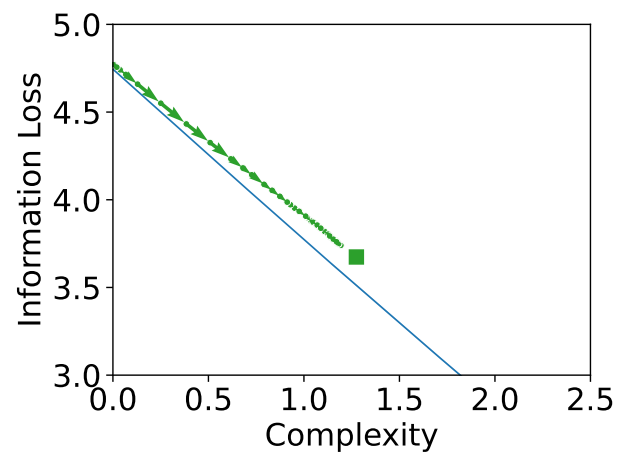


(e) Learnt SOM Cells

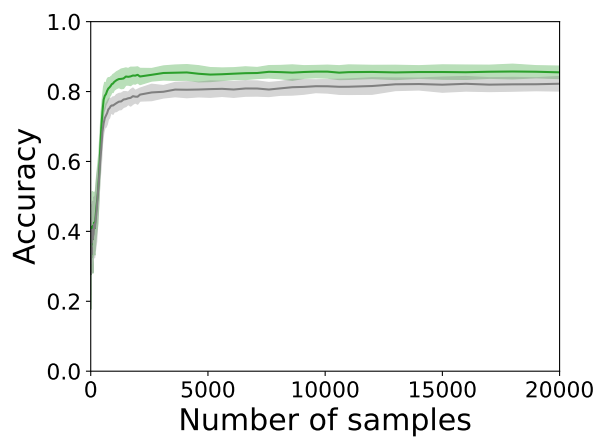
1.66. Mayoruna; $|\mathcal{W}| = 5$



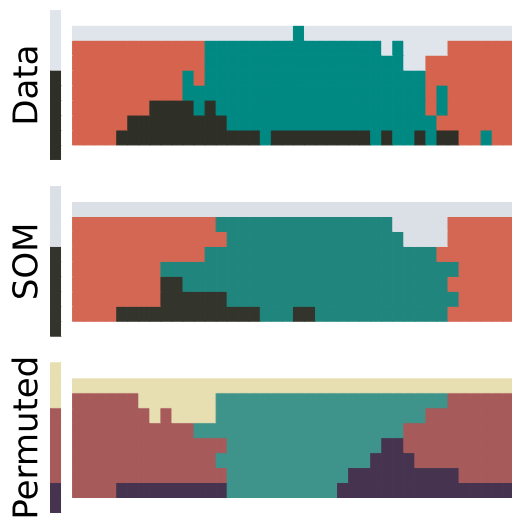
(a) Learning Space



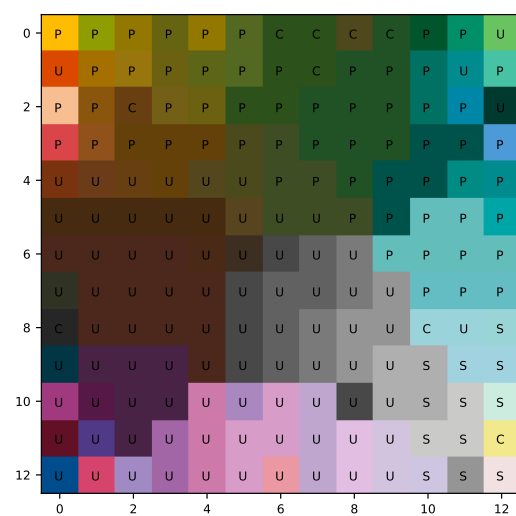
(b) Communicative Space



(c) Accuracy

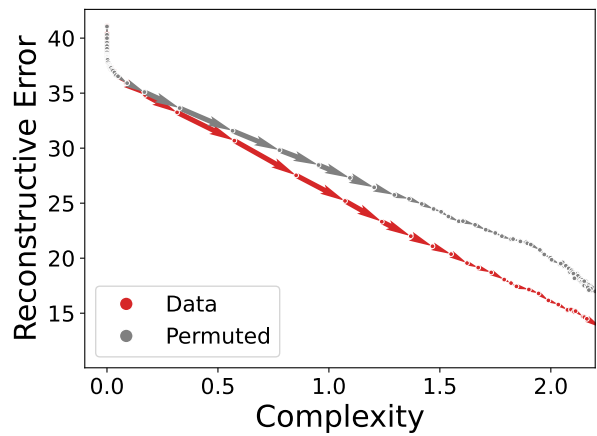


(d) Mode Maps

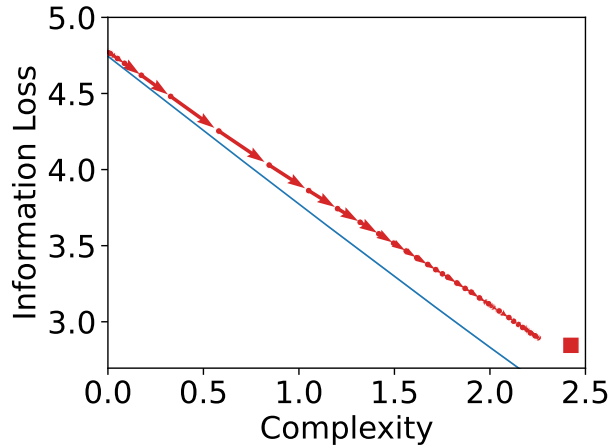


(e) Learnt SOM Cells

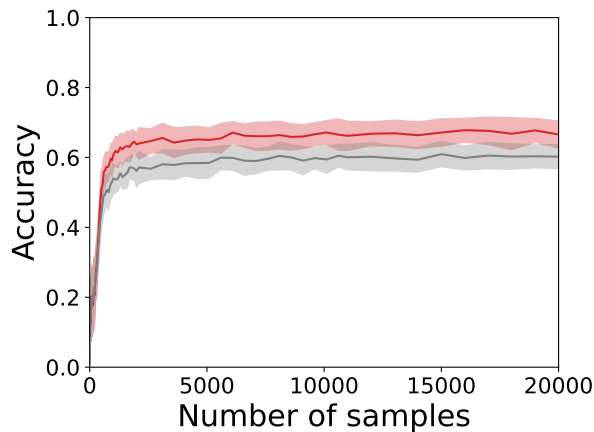
1.67. Mazahua; $|\mathcal{W}| = 52$



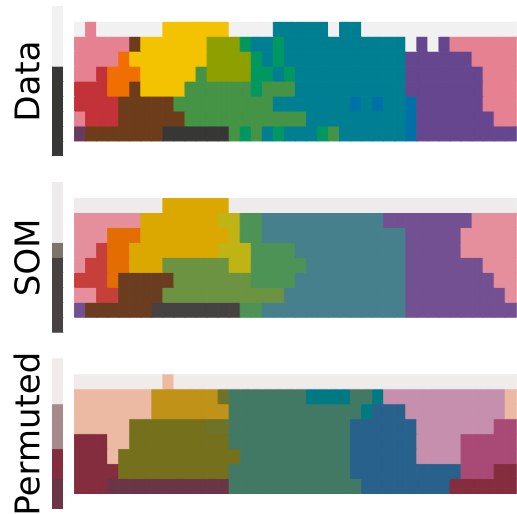
(a) Learning Space



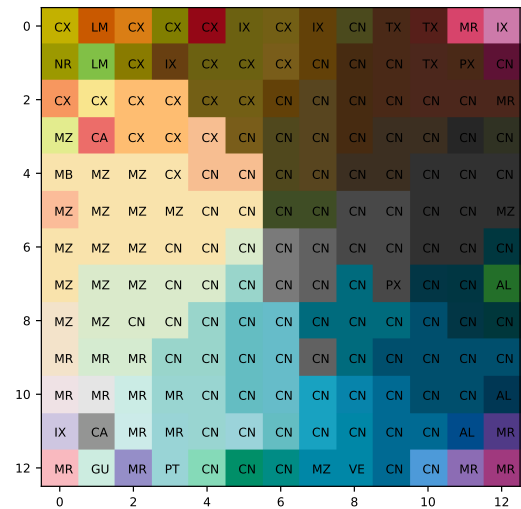
(b) Communicative Space



(c) Accuracy

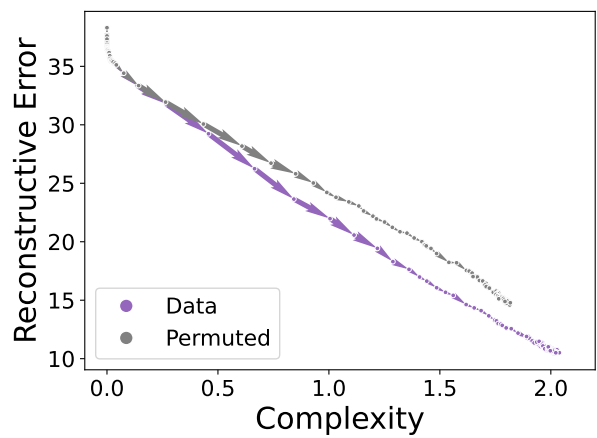


(d) Mode Maps

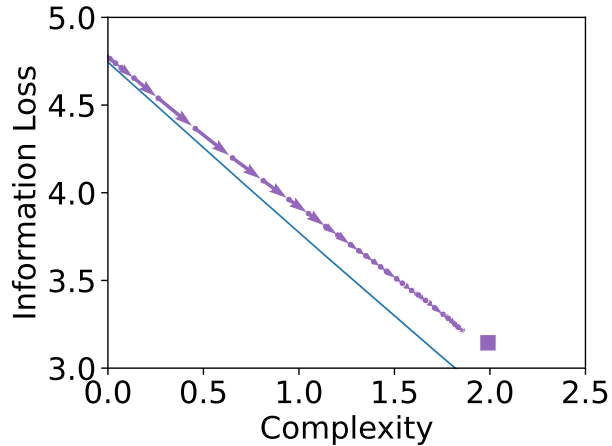


(e) Learnt SOM Cells

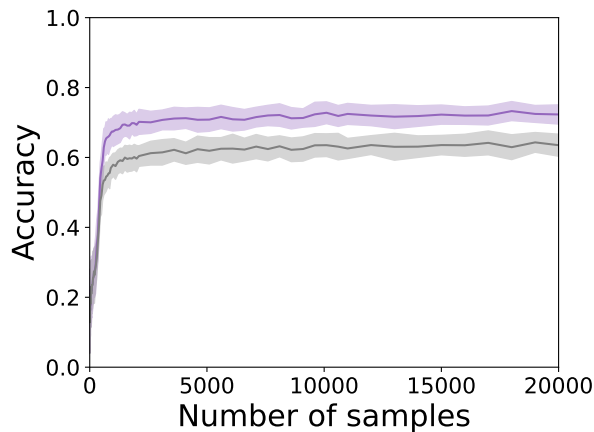
1.68. Mazateco; $|\mathcal{W}| = 20$



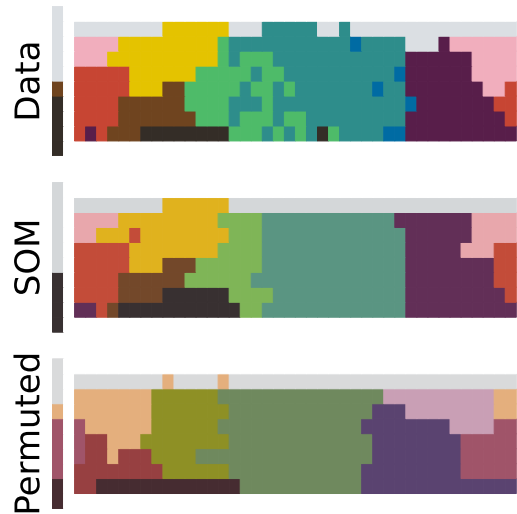
(a) Learning Space



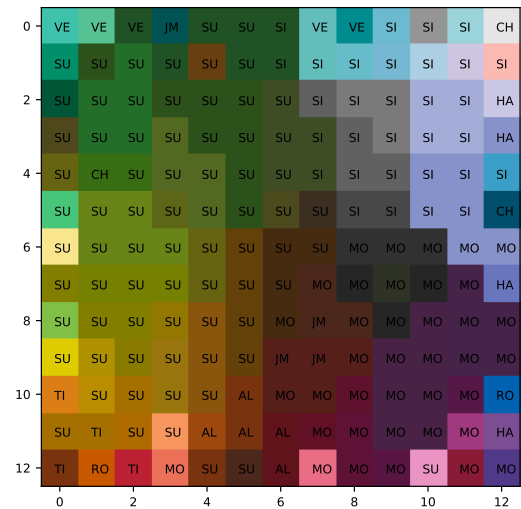
(b) Communicative Space



(c) Accuracy

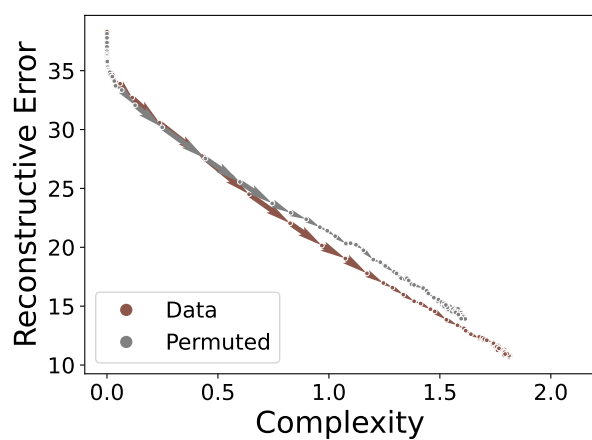


(d) Mode Maps

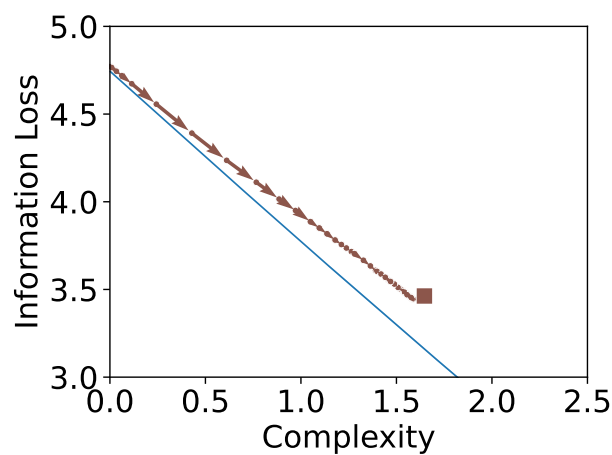


(e) Learnt SOM Cells

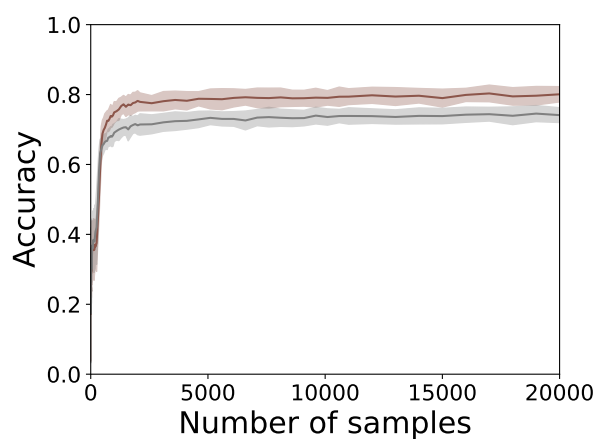
1.69. Menye; $|\mathcal{W}| = 17$



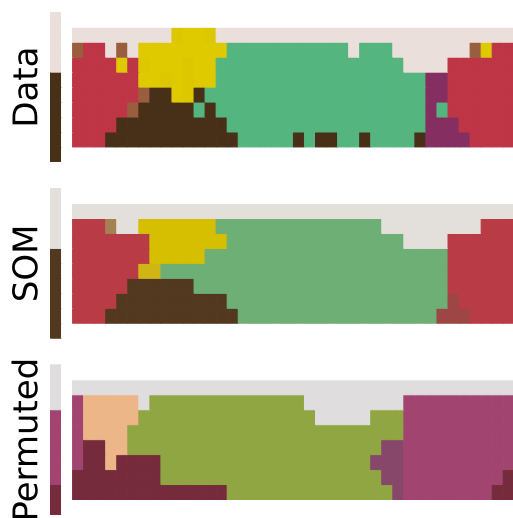
(a) Learning Space



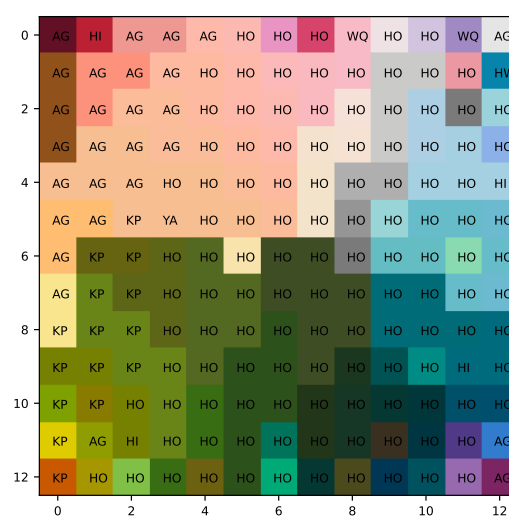
(b) Communicative Space



(c) Accuracy

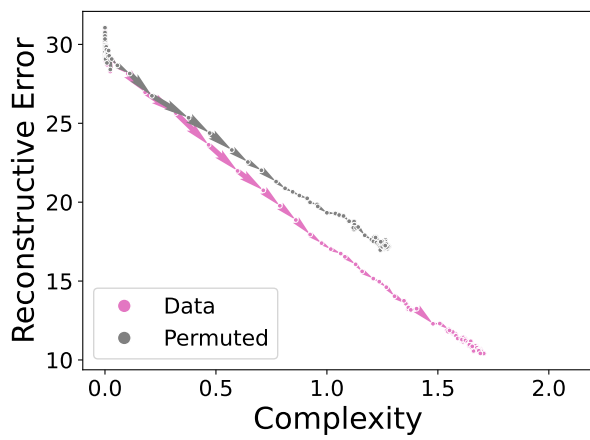


(d) Mode Maps

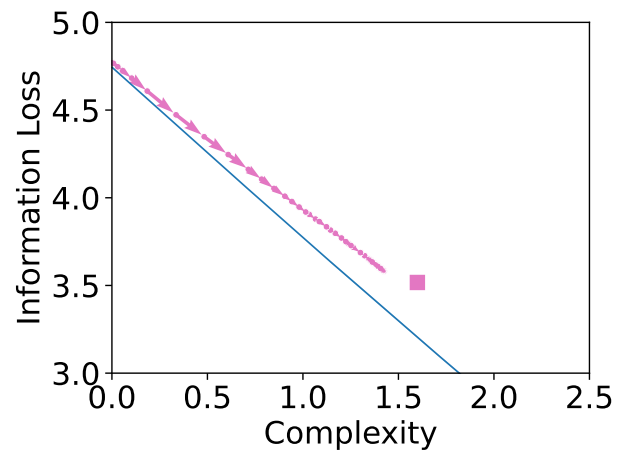


(e) Learnt SOM Cells

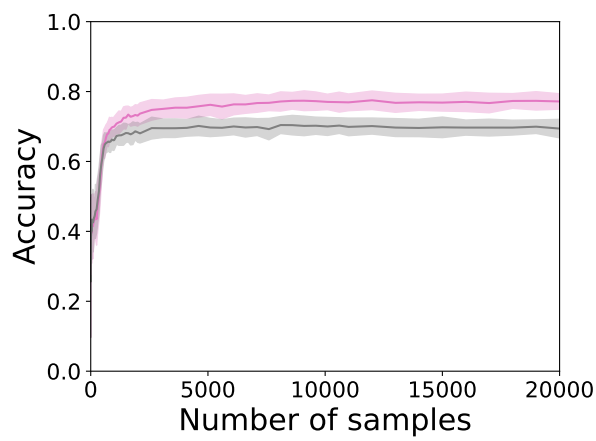
1.70. Micmac; $|\mathcal{W}| = 31$



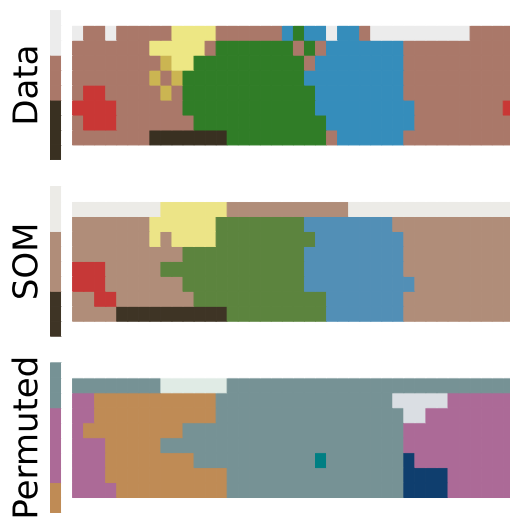
(a) Learning Space



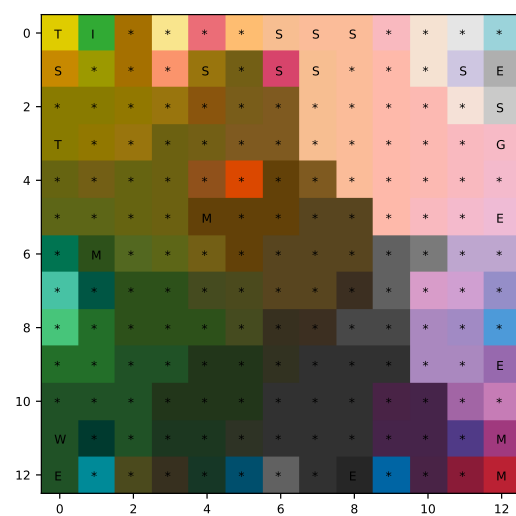
(b) Communicative Space



(c) Accuracy

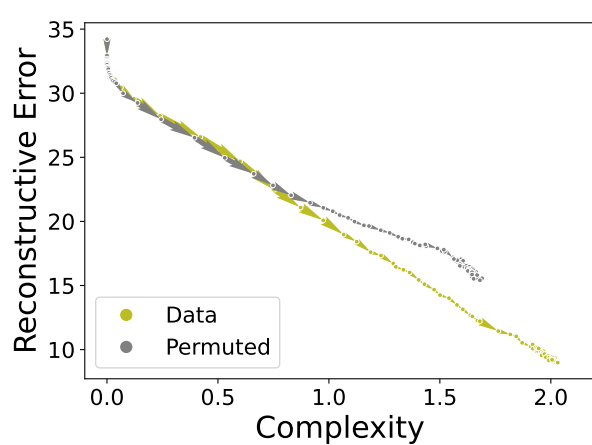


(d) Mode Maps

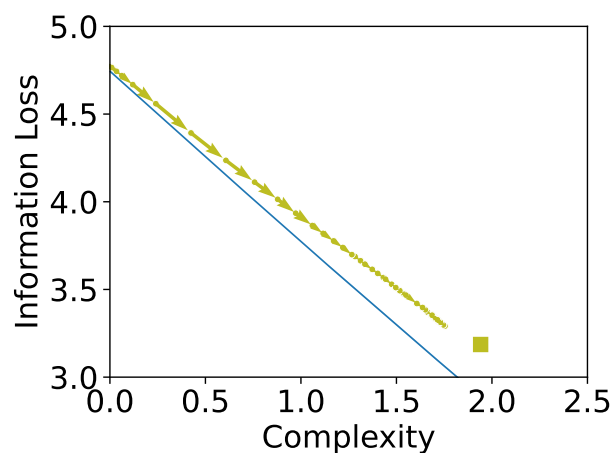


(e) Learnt SOM Cells

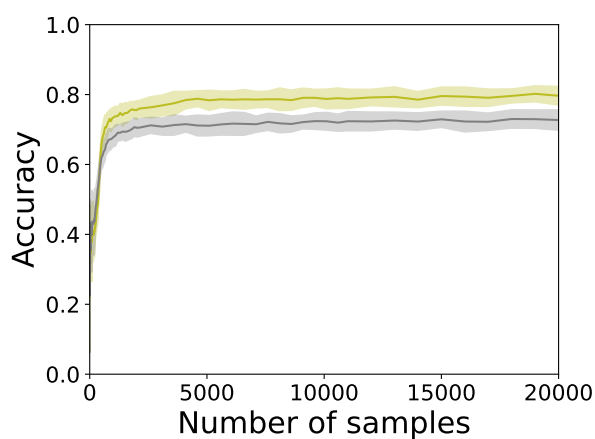
1.71. Mikasuki; $|\mathcal{W}| = 14$



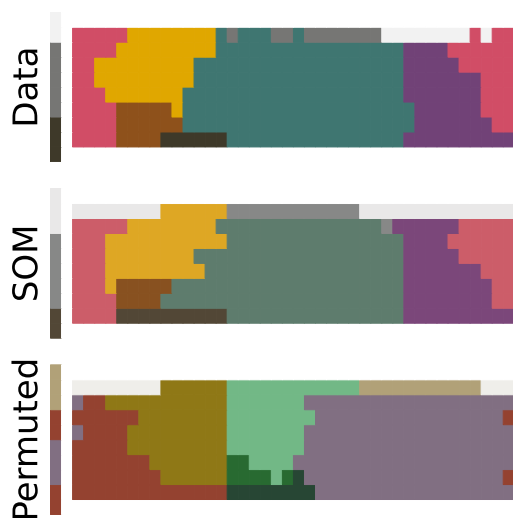
(a) Learning Space



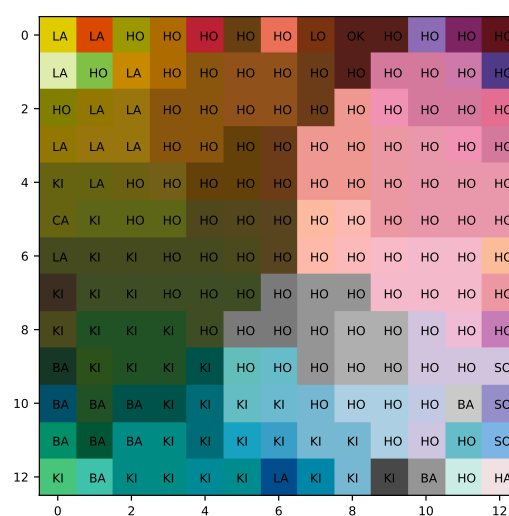
(b) Communicative Space



(c) Accuracy

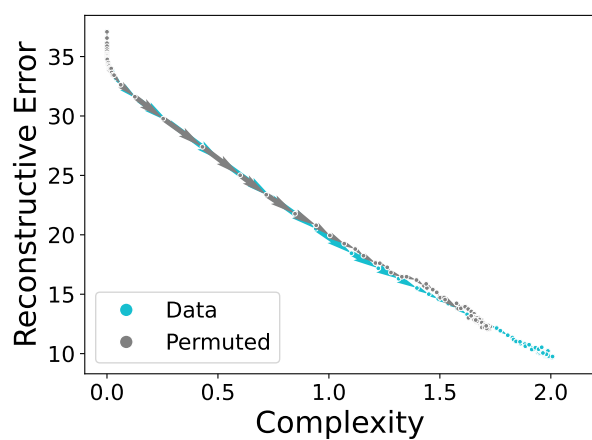


(d) Mode Maps

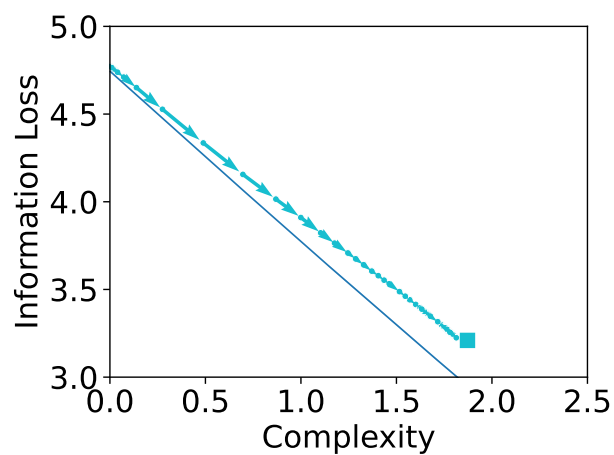


(e) Learnt SOM Cells

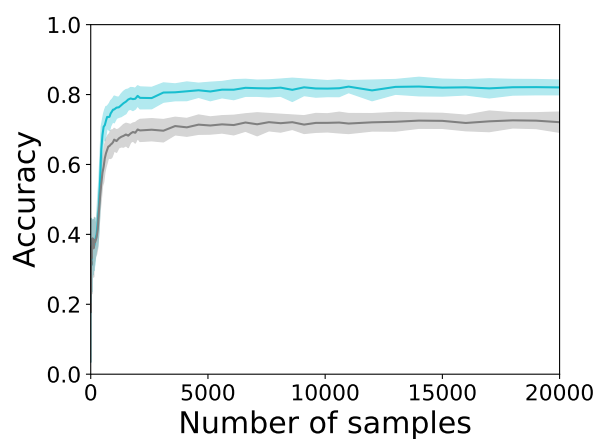
1.72. Mixteco; $|\mathcal{W}| = 30$



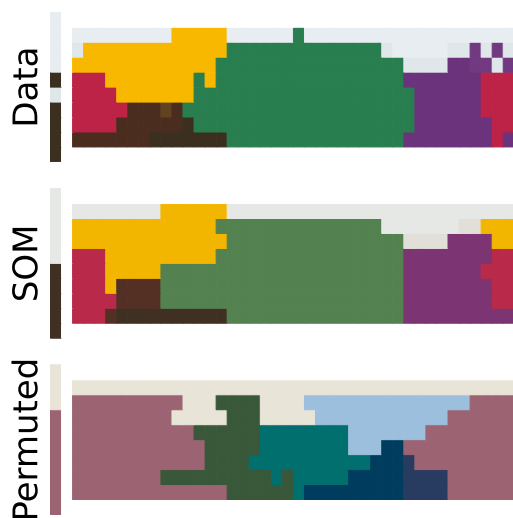
(a) Learning Space



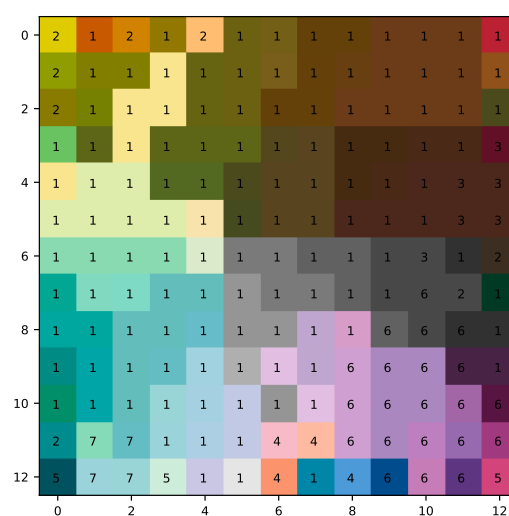
(b) Communicative Space



(c) Accuracy

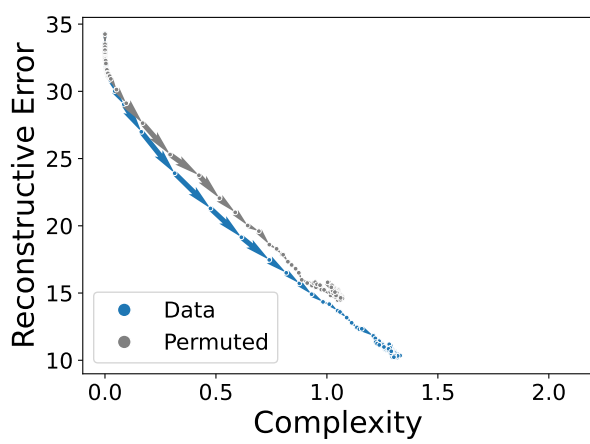


(d) Mode Maps

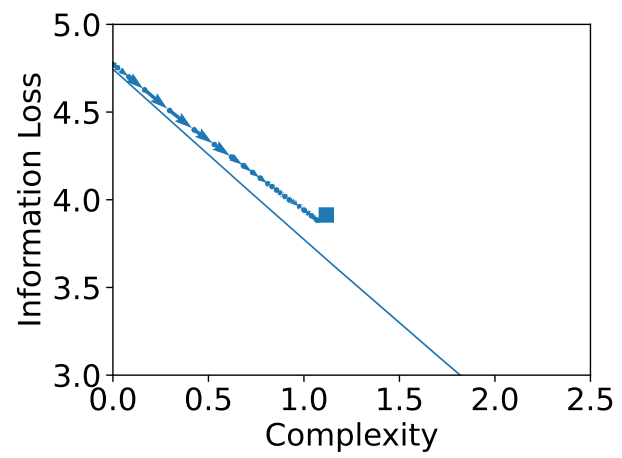


(e) Learnt SOM Cells

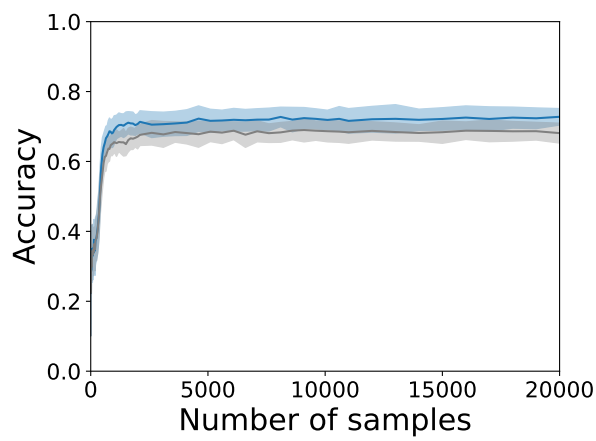
1.73. Mundu; $|\mathcal{W}| = 12$



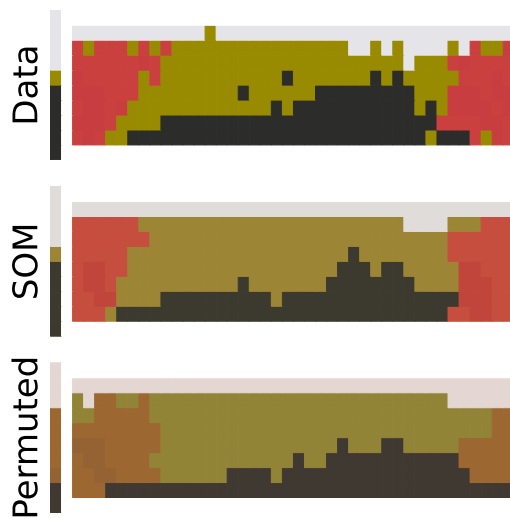
(a) Learning Space



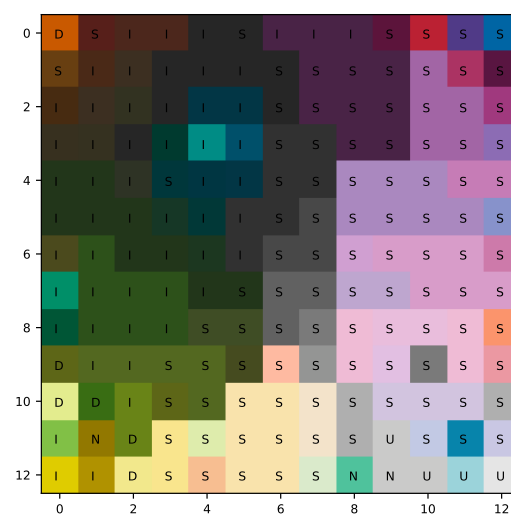
(b) Communicative Space



(c) Accuracy

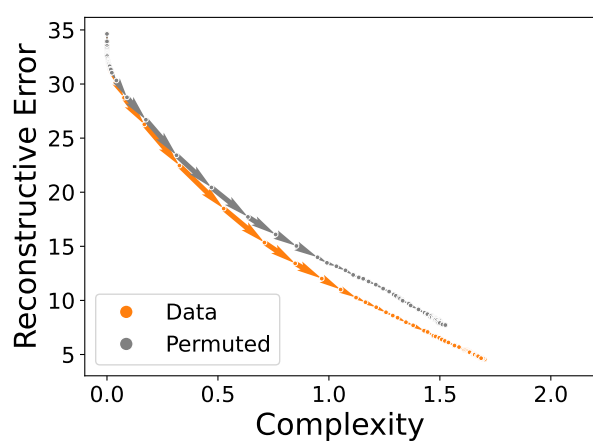


(d) Mode Maps

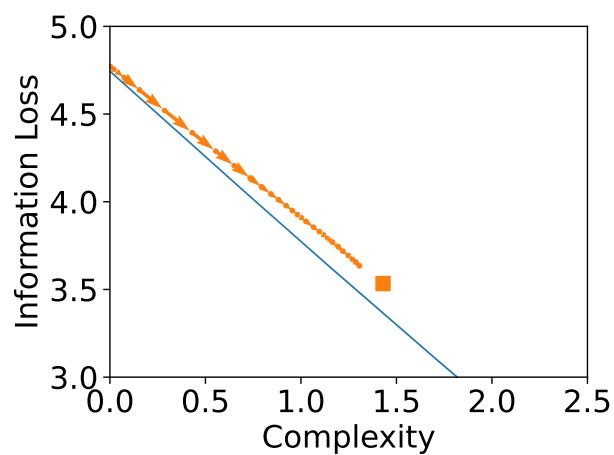


(e) Learnt SOM Cells

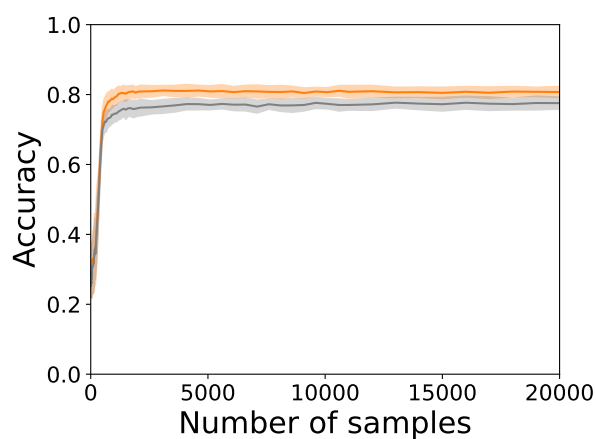
1.74. Múra Pirahá; $|\mathcal{W}| = 5$



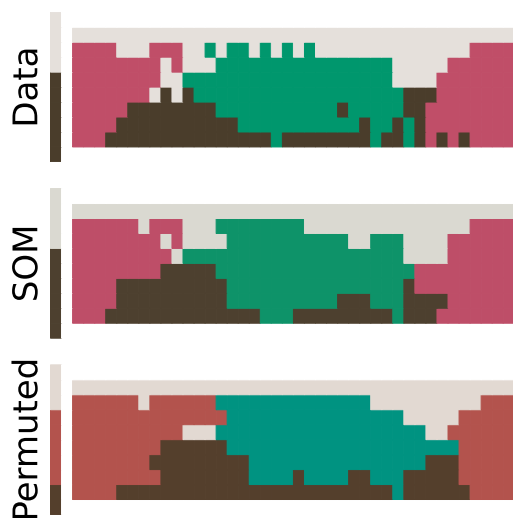
(a) Learning Space



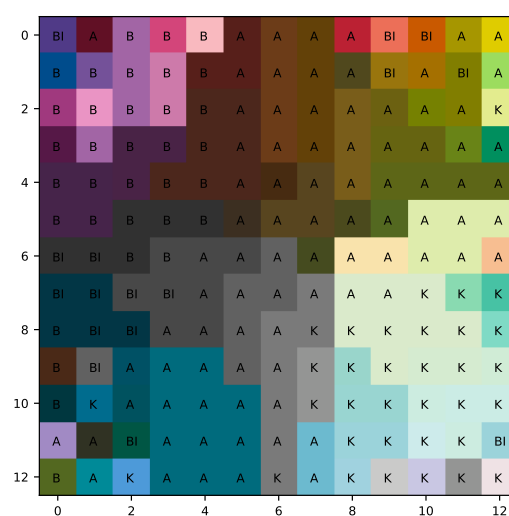
(b) Communicative Space



(c) Accuracy

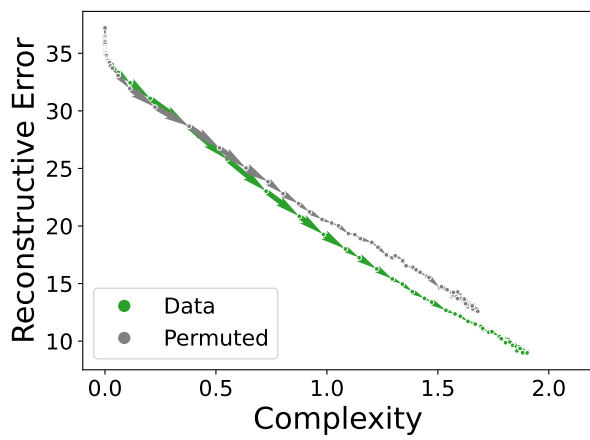


(d) Mode Maps

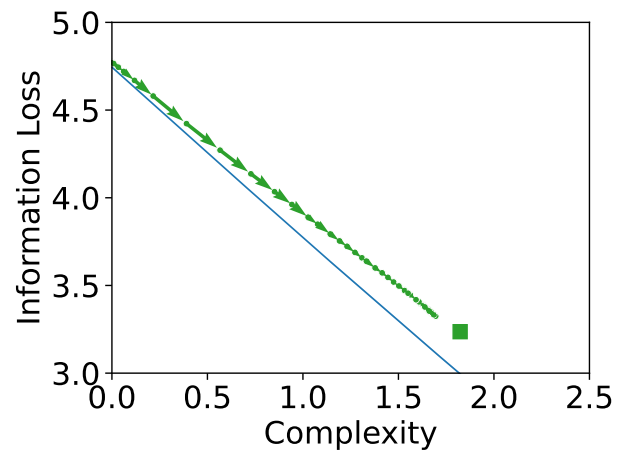


(e) Learnt SOM Cells

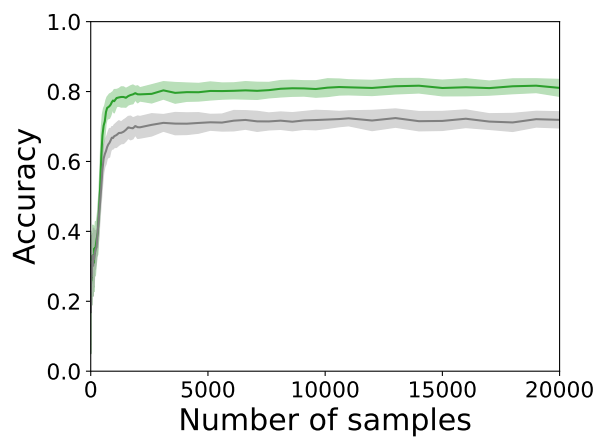
1.75. Murle; $|\mathcal{W}| = 15$



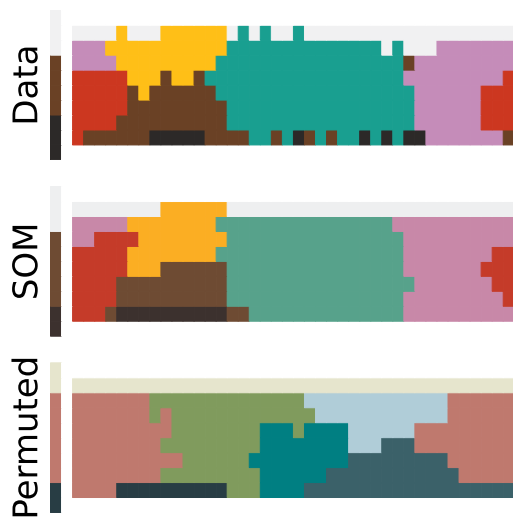
(a) Learning Space



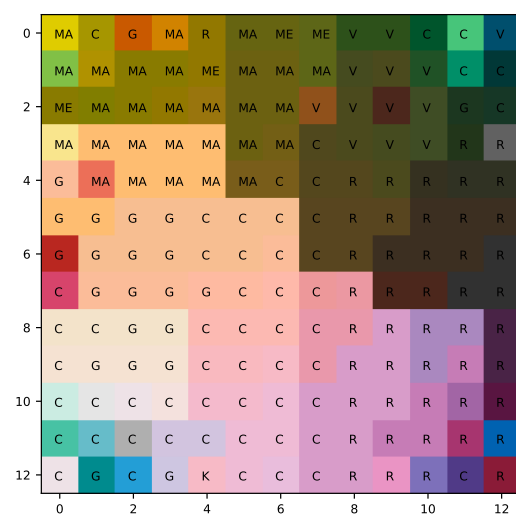
(b) Communicative Space



(c) Accuracy

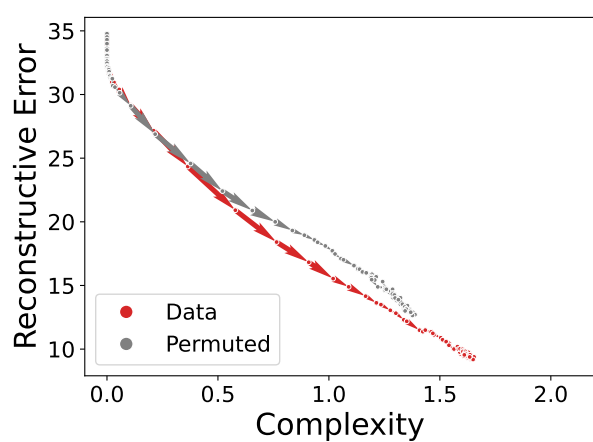


(d) Mode Maps

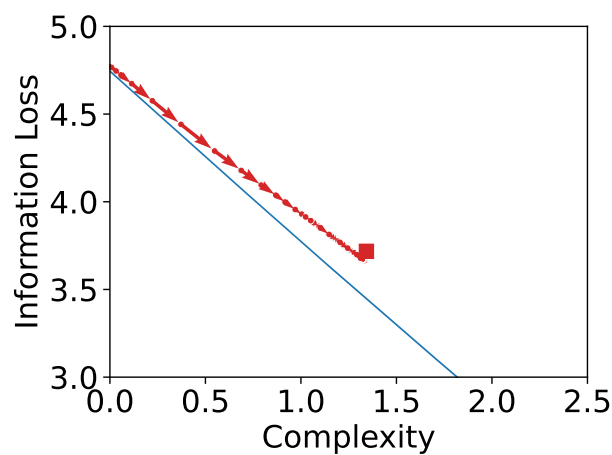


(e) Learnt SOM Cells

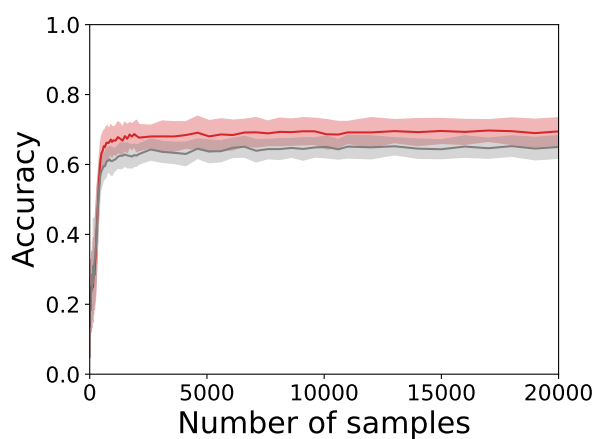
1.76. Murinbata; $|\mathcal{W}| = 22$



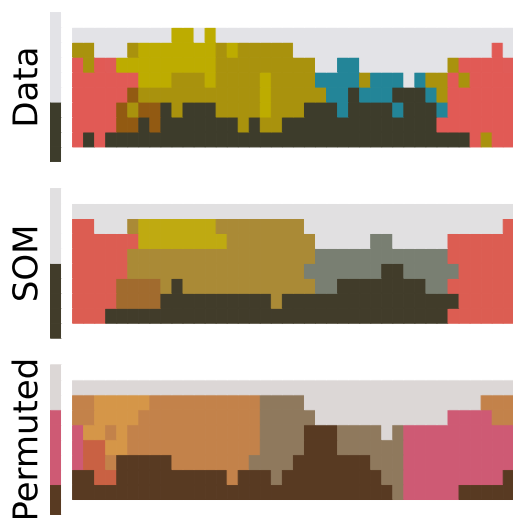
(a) Learning Space



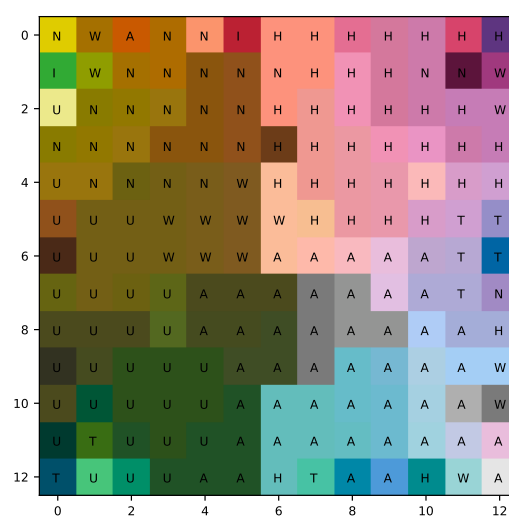
(b) Communicative Space



(c) Accuracy

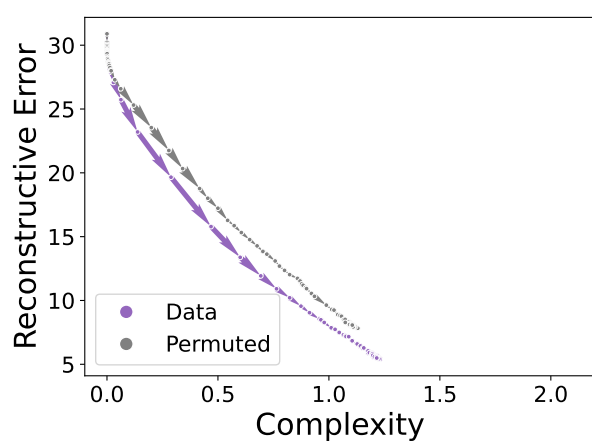


(d) Mode Maps

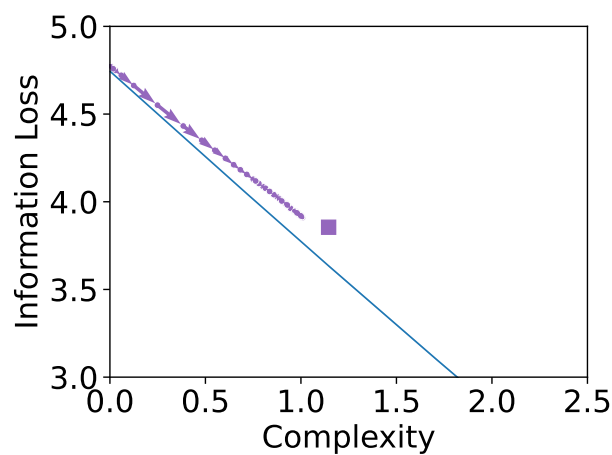


(e) Learnt SOM Cells

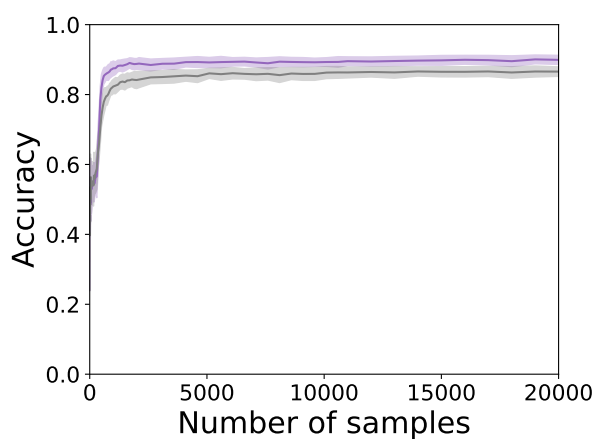
1.77. Nafaanra; $|\mathcal{W}| = 5$



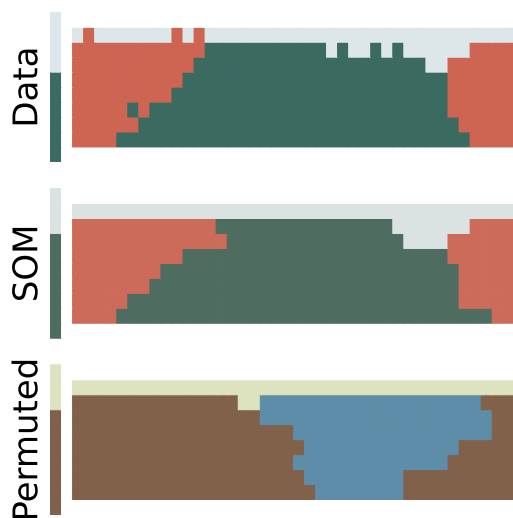
(a) Learning Space



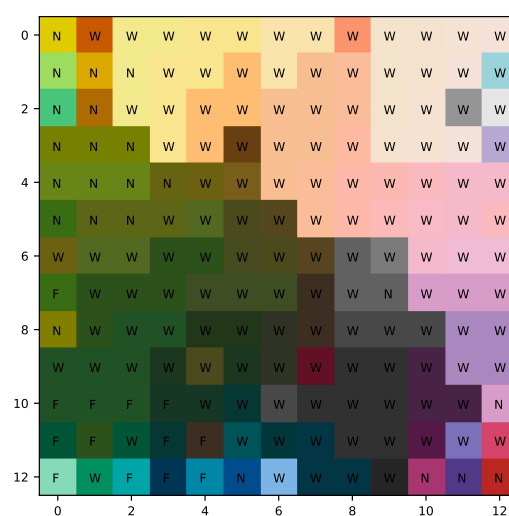
(b) Communicative Space



(c) Accuracy

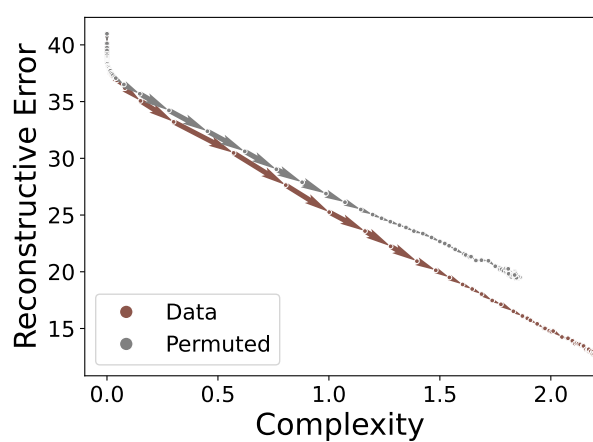


(d) Mode Maps

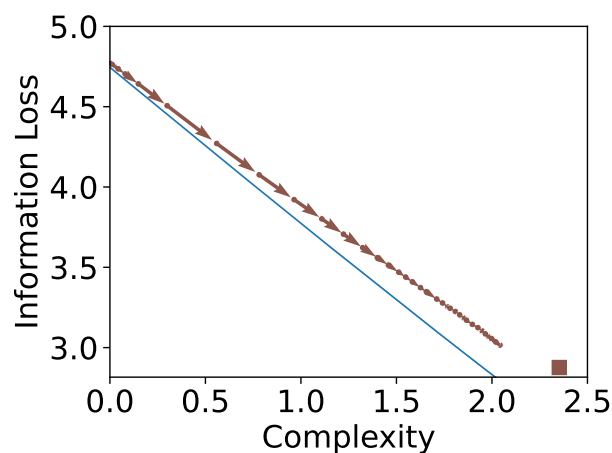


(e) Learnt SOM Cells

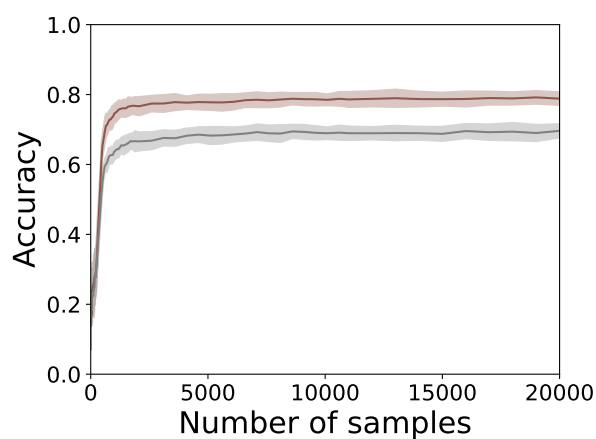
1.78. Nahuatl; $|\mathcal{W}| = 16$



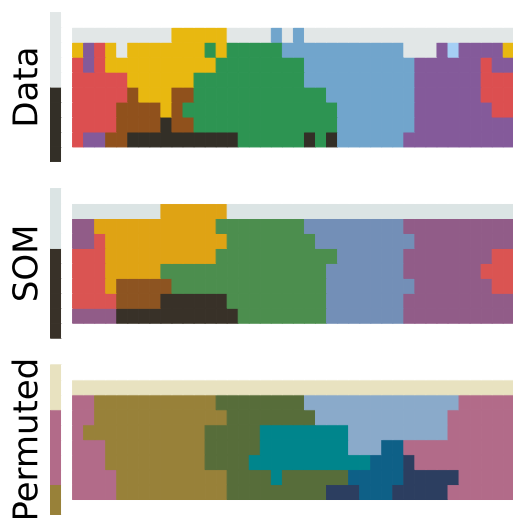
(a) Learning Space



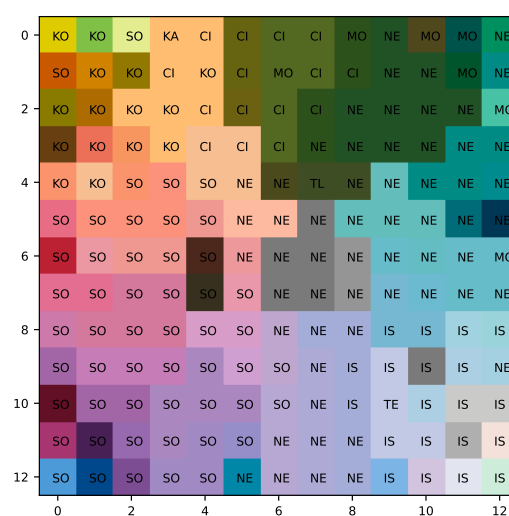
(b) Communicative Space



(c) Accuracy

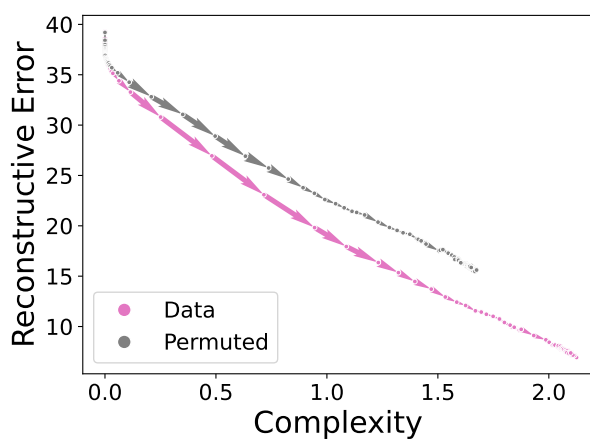


(d) Mode Maps

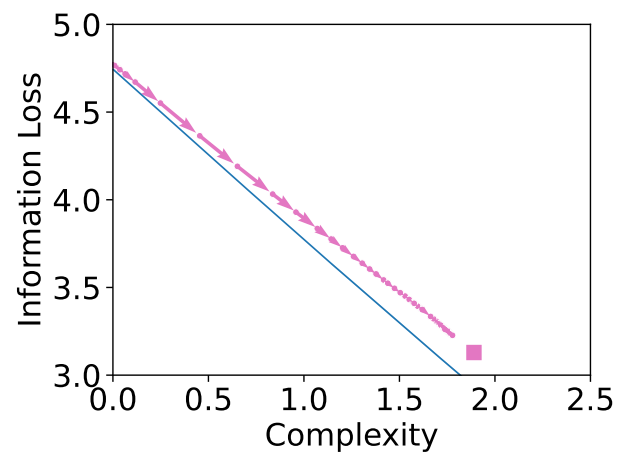


(e) Learnt SOM Cells

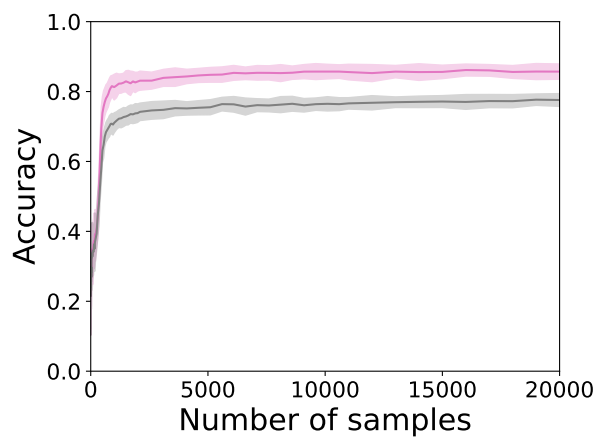
1.79. Ocaina; $|\mathcal{W}| = 12$



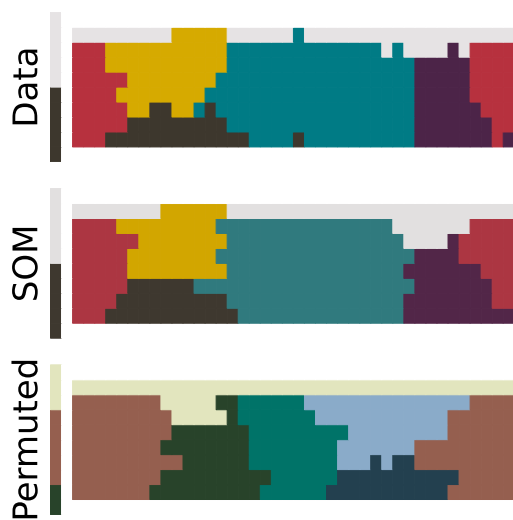
(a) Learning Space



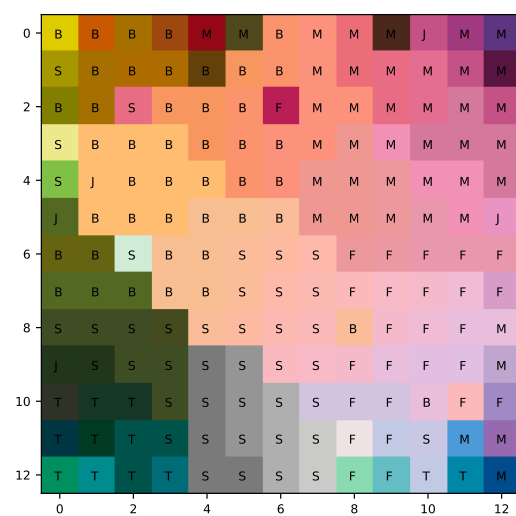
(b) Communicative Space



(c) Accuracy

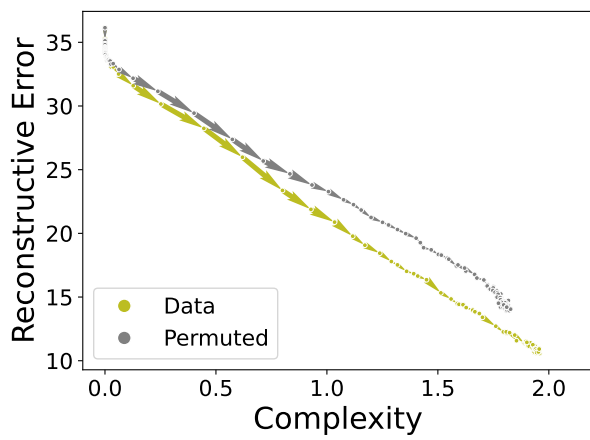


(d) Mode Maps

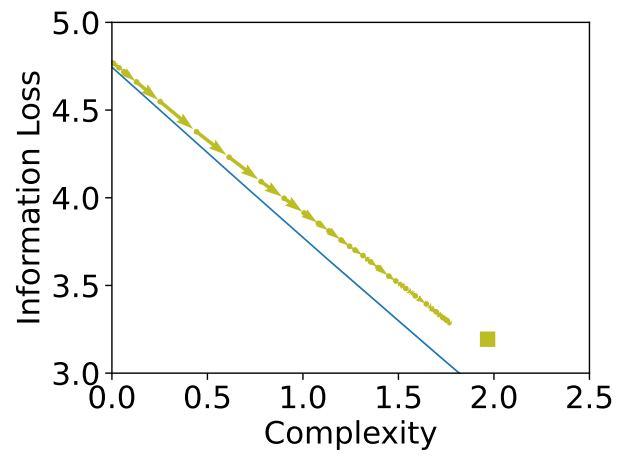


(e) Learnt SOM Cells

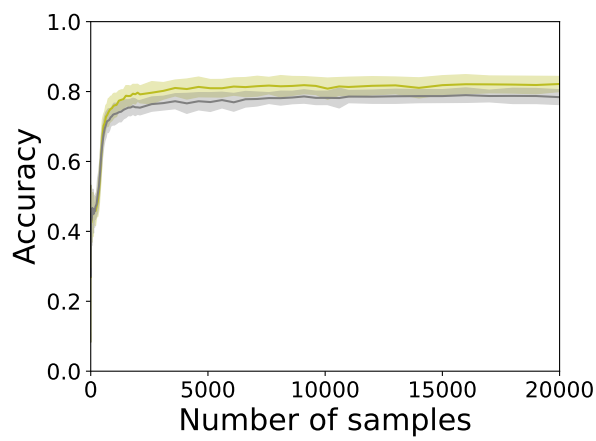
1.80. Papago; $|\mathcal{W}| = 26$



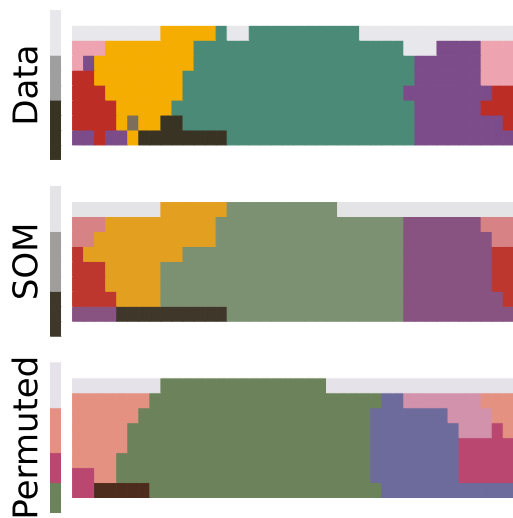
(a) Learning Space



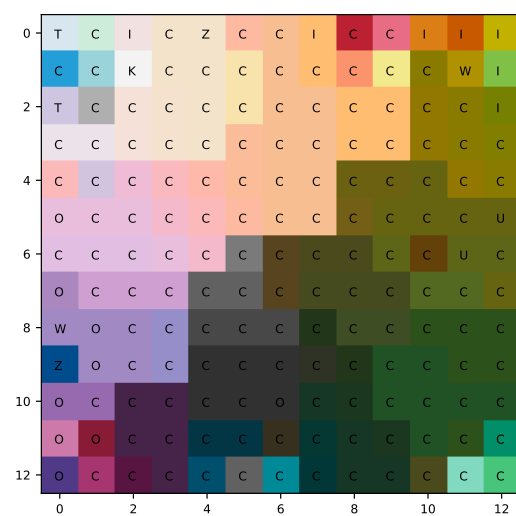
(b) Communicative Space



(c) Accuracy

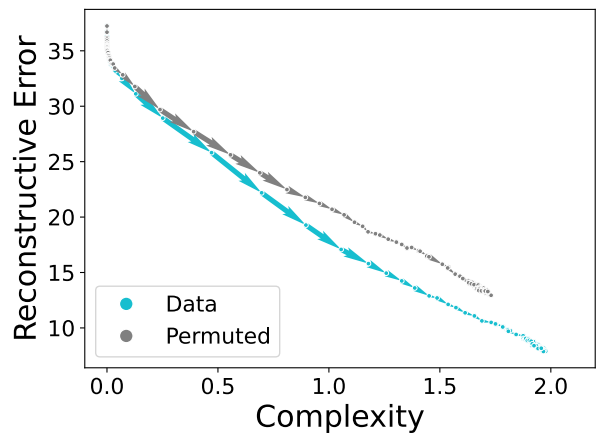


(d) Mode Maps

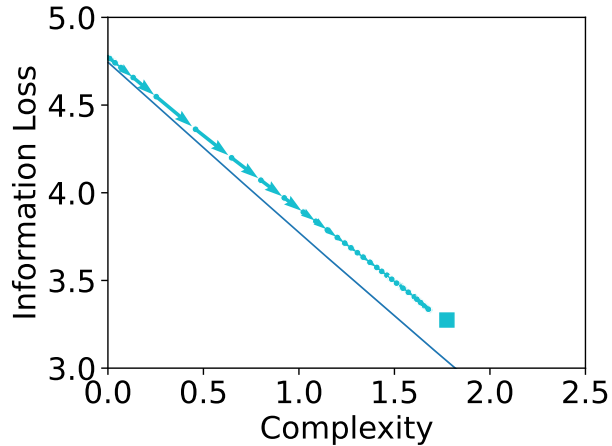


(e) Learnt SOM Cells

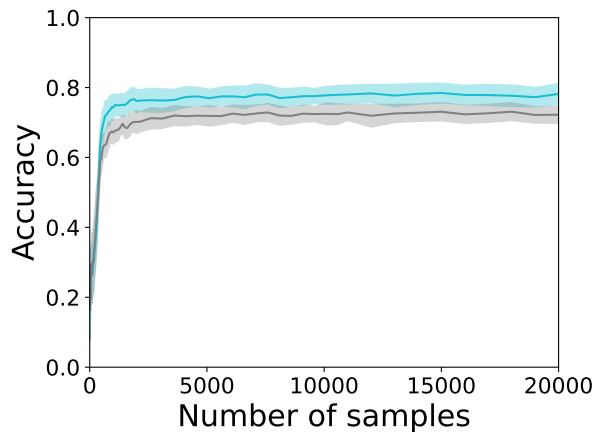
1.81. Patep; $|\mathcal{W}| = 15$



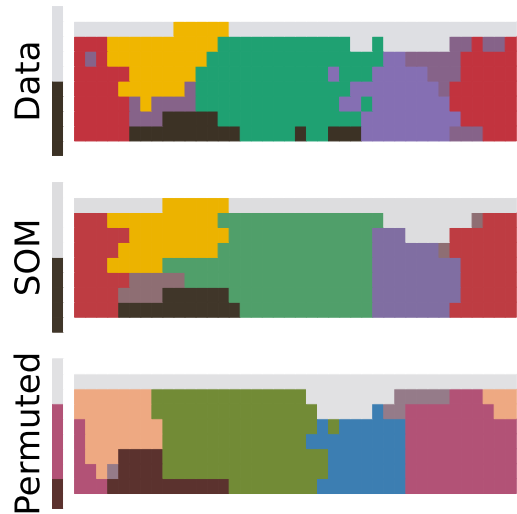
(a) Learning Space



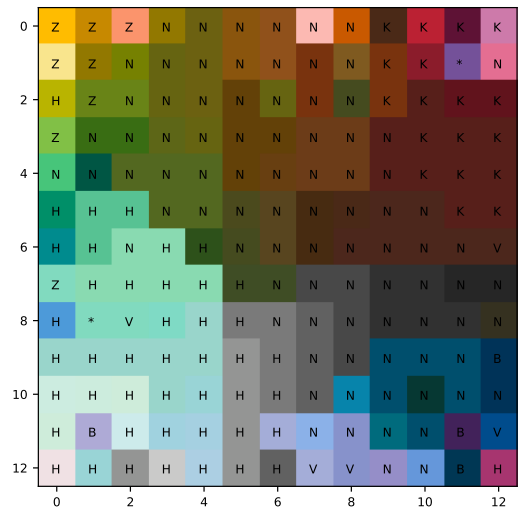
(b) Communicative Space



(c) Accuracy

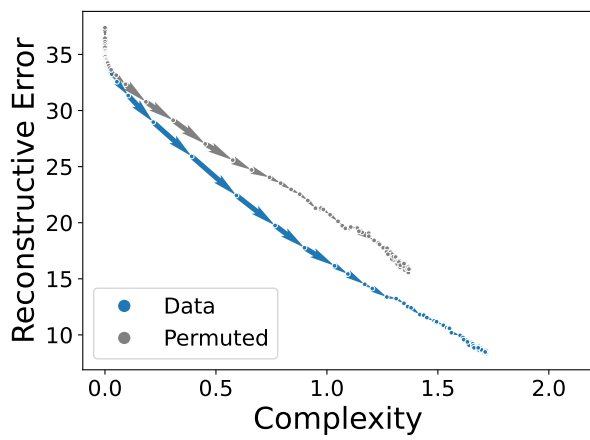


(d) Mode Maps

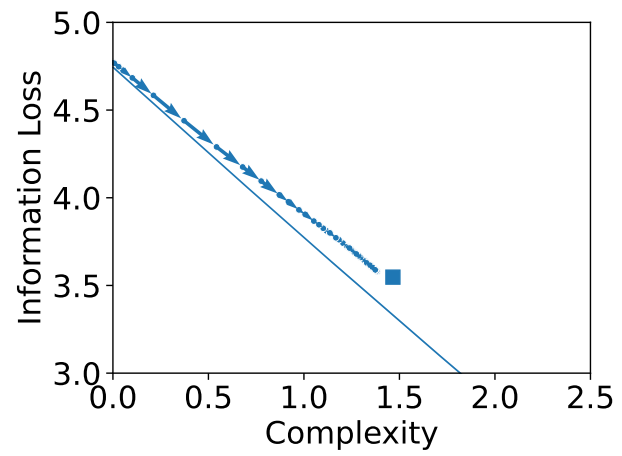


(e) Learnt SOM Cells

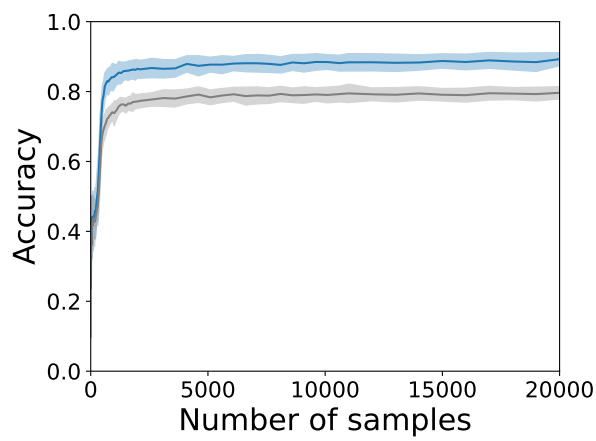
1.82. Paya; $|\mathcal{W}| = 13$



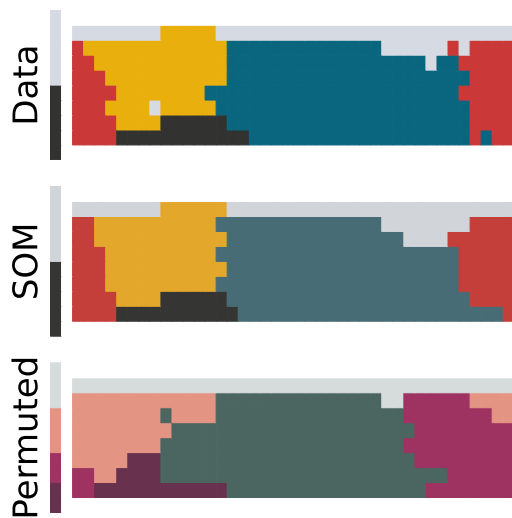
(a) Learning Space



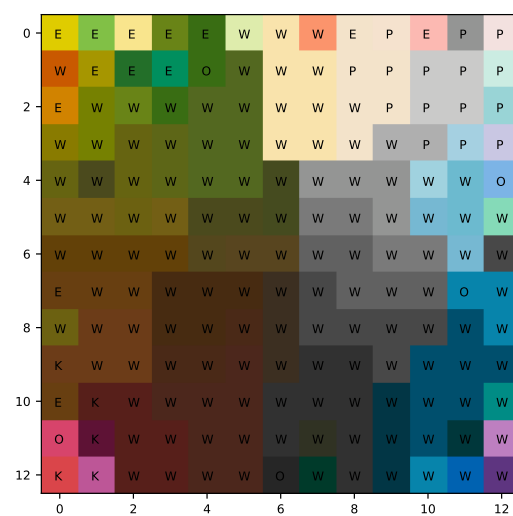
(b) Communicative Space



(c) Accuracy

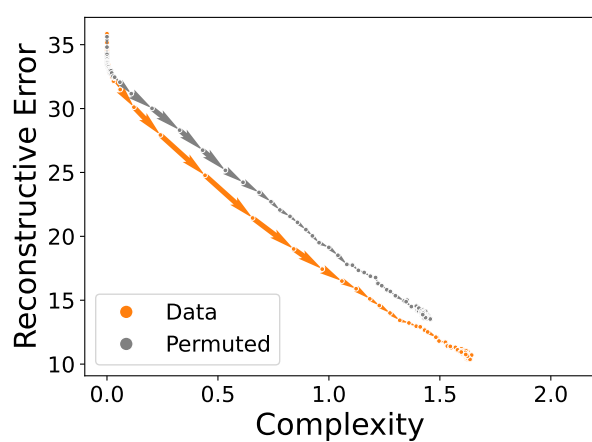


(d) Mode Maps

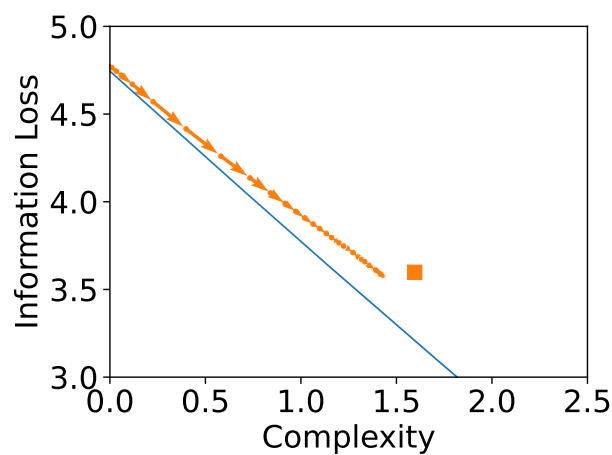


(e) Learnt SOM Cells

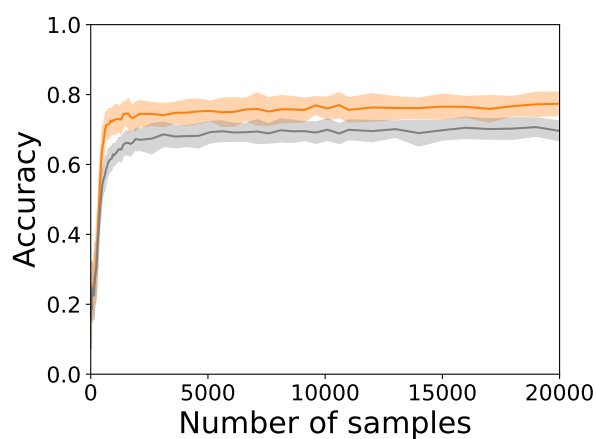
1.83. Podopa; $|\mathcal{W}| = 19$



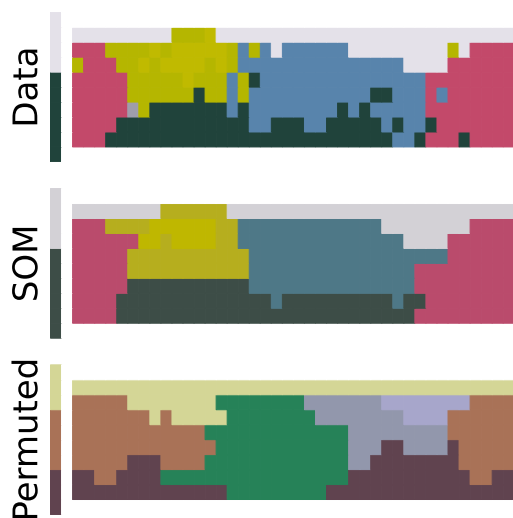
(a) Learning Space



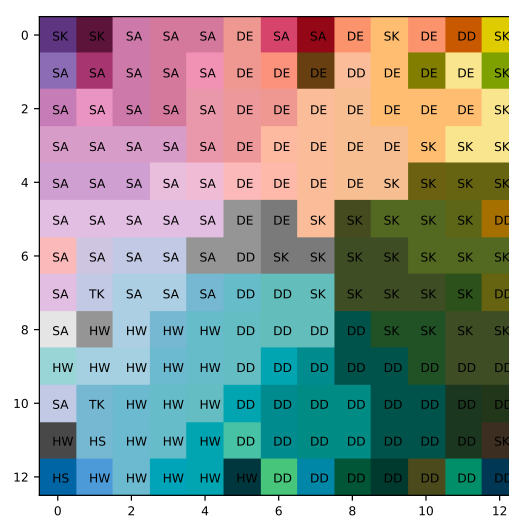
(b) Communicative Space



(c) Accuracy

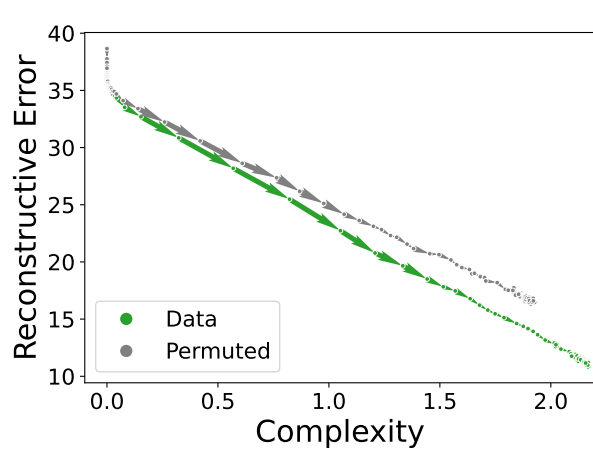


(d) Mode Maps

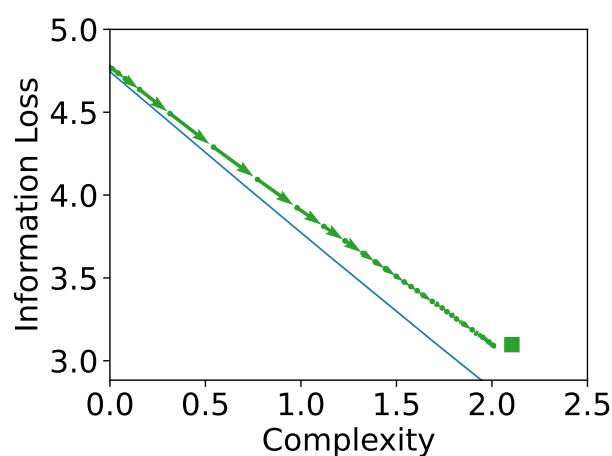


(e) Learnt SOM Cells

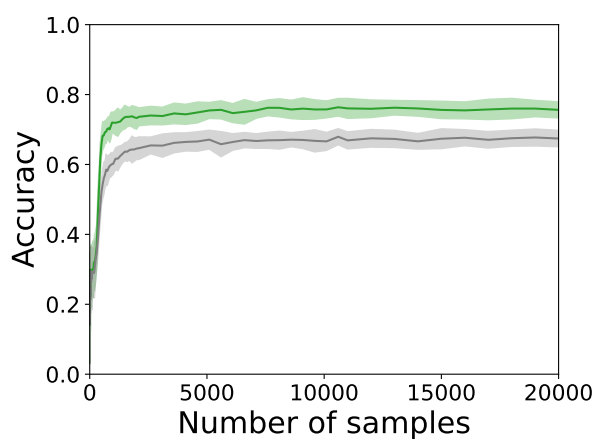
1.84. Saramaccan; $|\mathcal{W}| = 41$



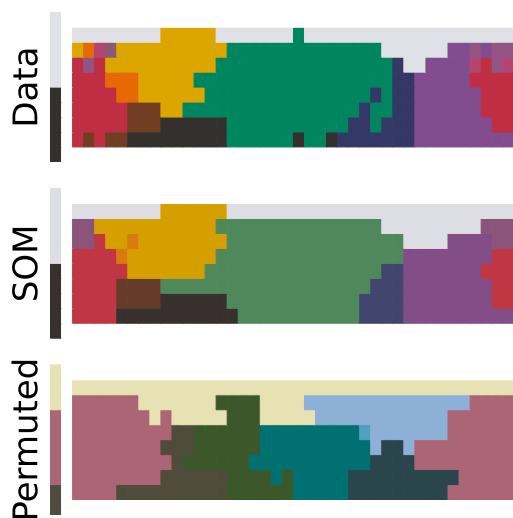
(a) Learning Space



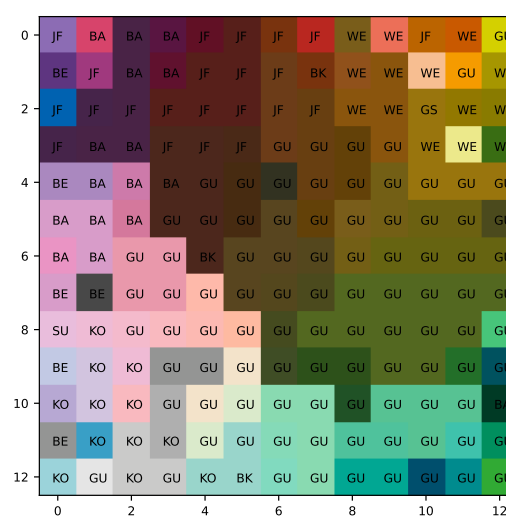
(b) Communicative Space



(c) Accuracy

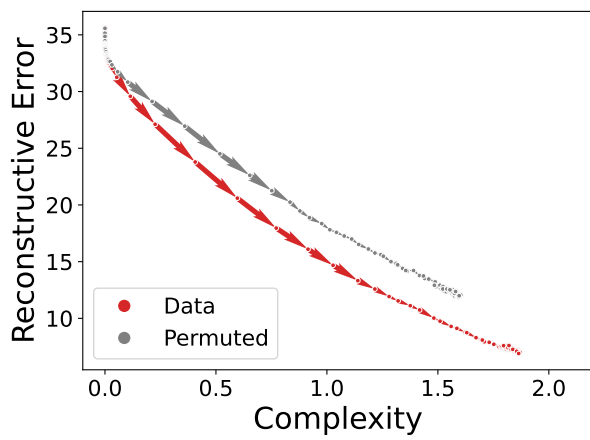


(d) Mode Maps

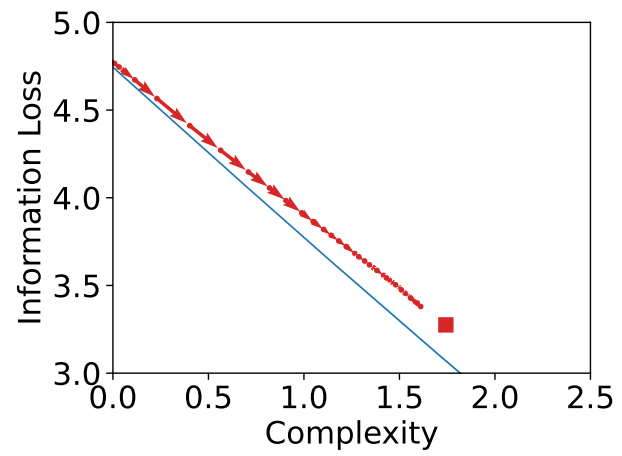


(e) Learnt SOM Cells

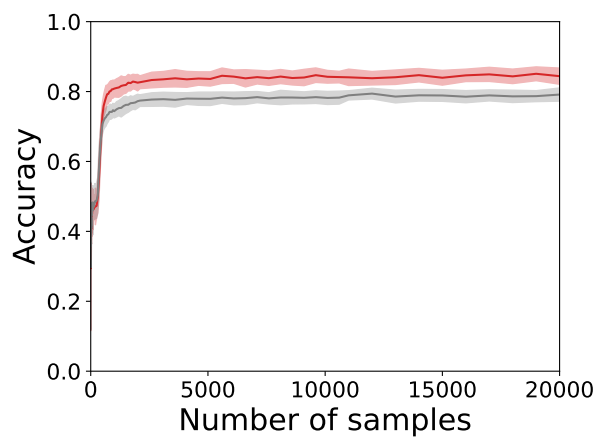
1.85. *Seri*; $|\mathcal{W}| = 12$



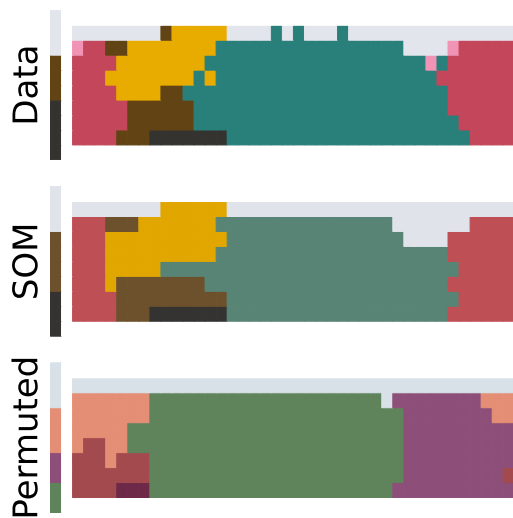
(a) Learning Space



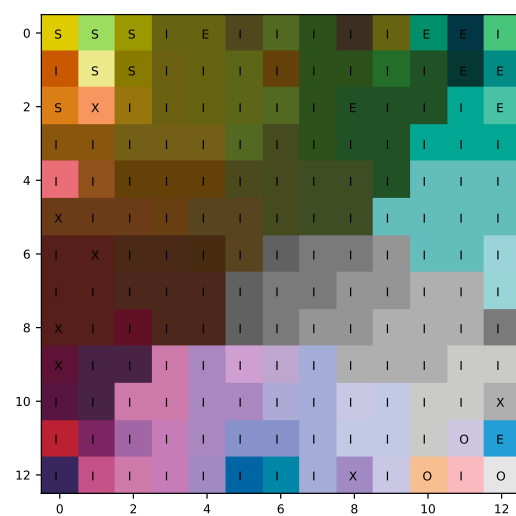
(b) Communicative Space



(c) Accuracy

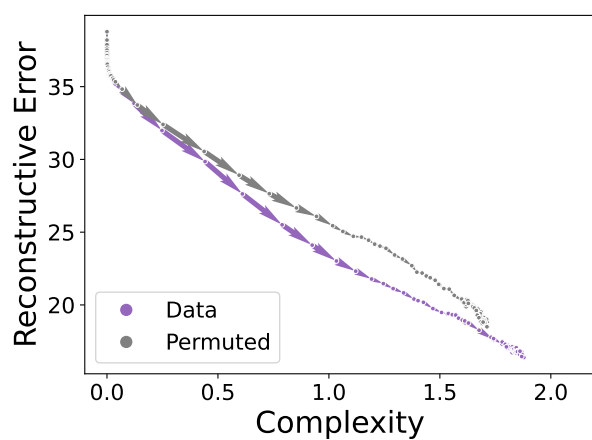


(d) Mode Maps

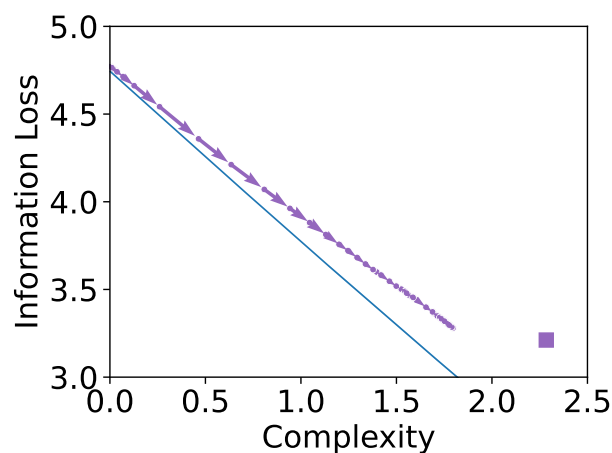


(e) Learnt SOM Cells

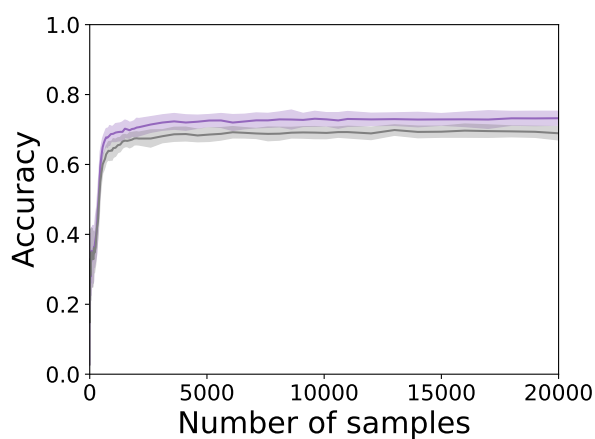
1.86. Shipibo; $|\mathcal{W}| = 21$



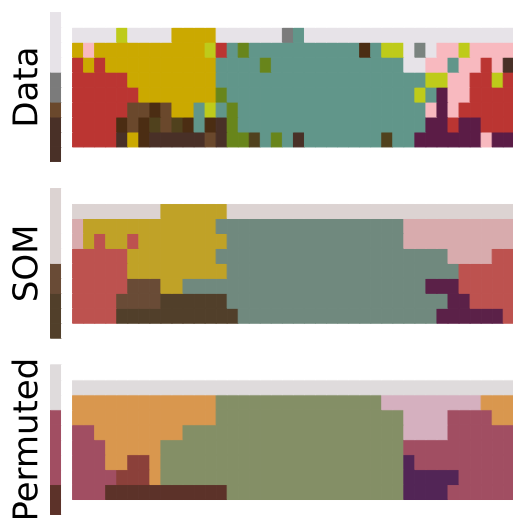
(a) Learning Space



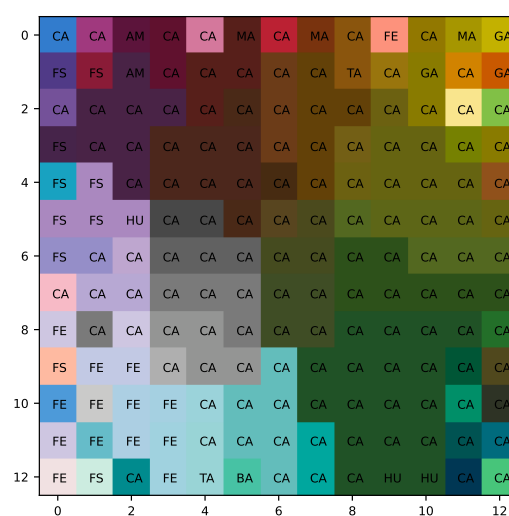
(b) Communicative Space



(c) Accuracy

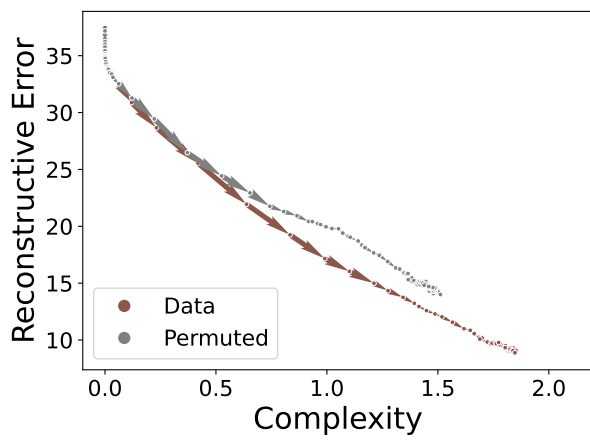


(d) Mode Maps

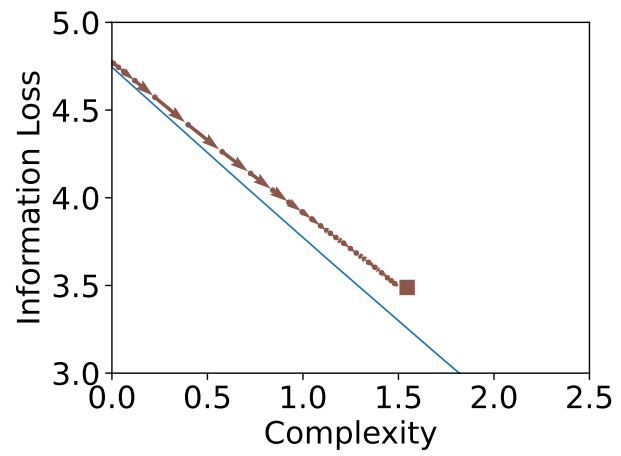


(e) Learnt SOM Cells

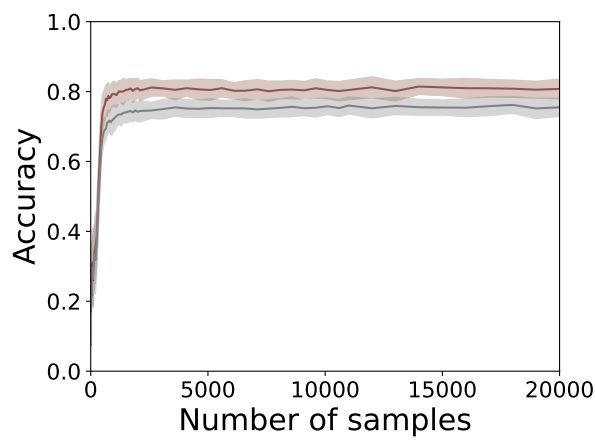
1.87. *Sirionó*; $|\mathcal{W}| = 14$



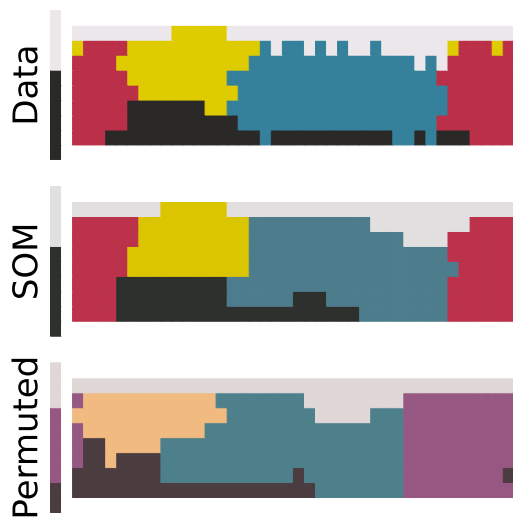
(a) Learning Space



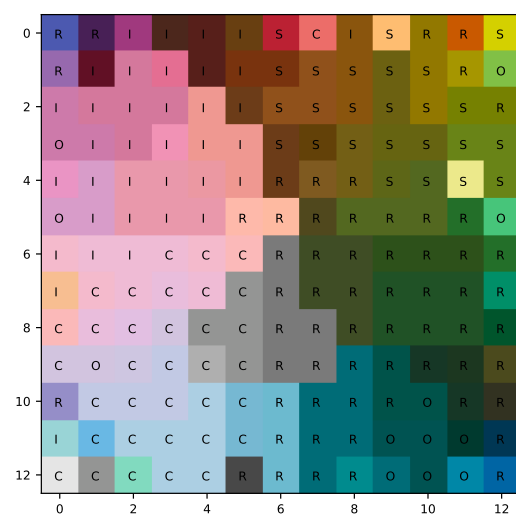
(b) Communicative Space



(c) Accuracy

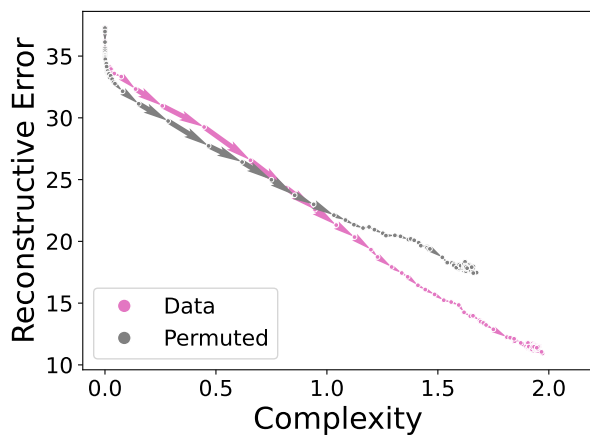


(d) Mode Maps

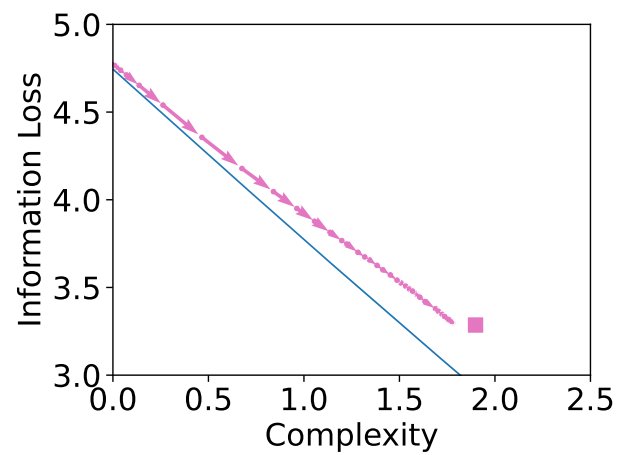


(e) Learnt SOM Cells

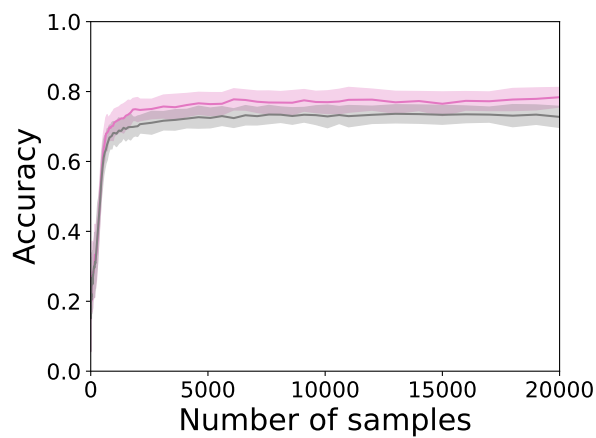
1.88. Slave; $|\mathcal{W}| = 48$



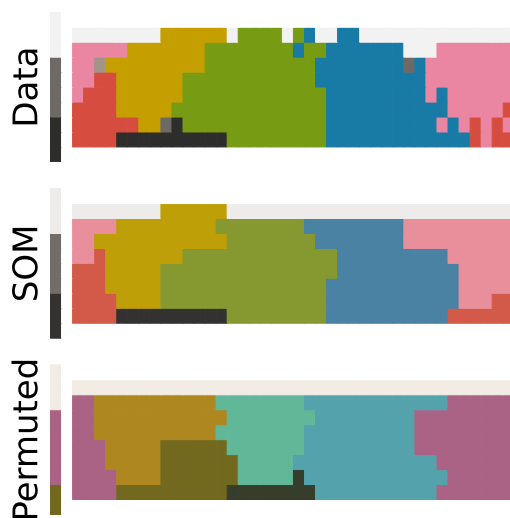
(a) Learning Space



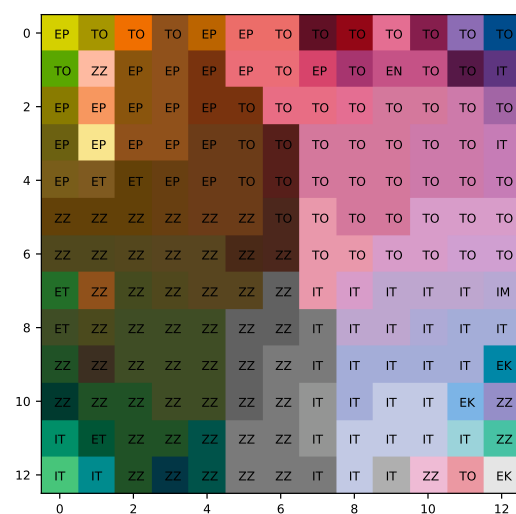
(b) Communicative Space



(c) Accuracy

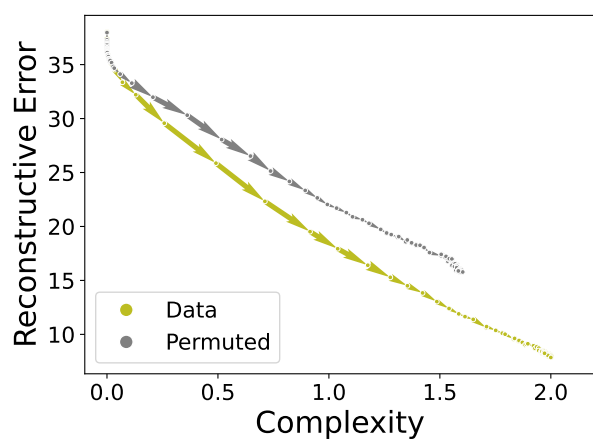


(d) Mode Maps

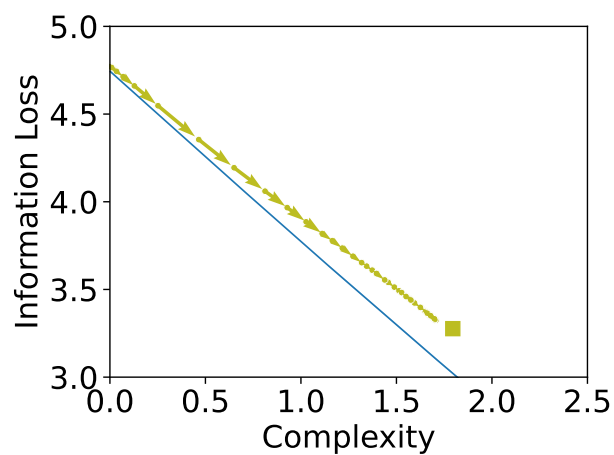


(e) Learnt SOM Cells

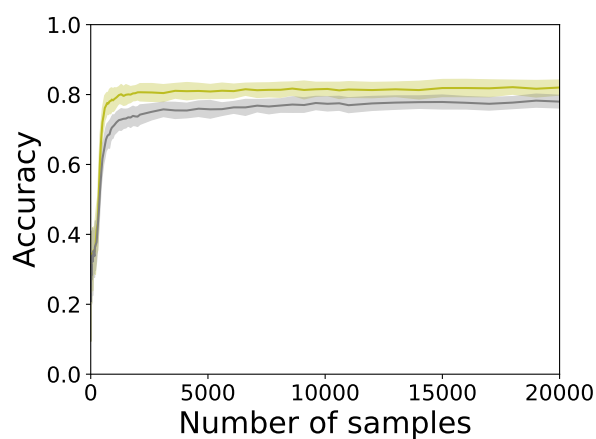
1.89. Sursurunga; $|\mathcal{W}| = 12$



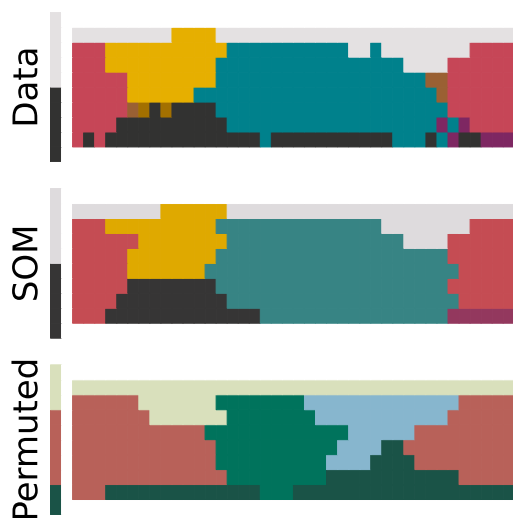
(a) Learning Space



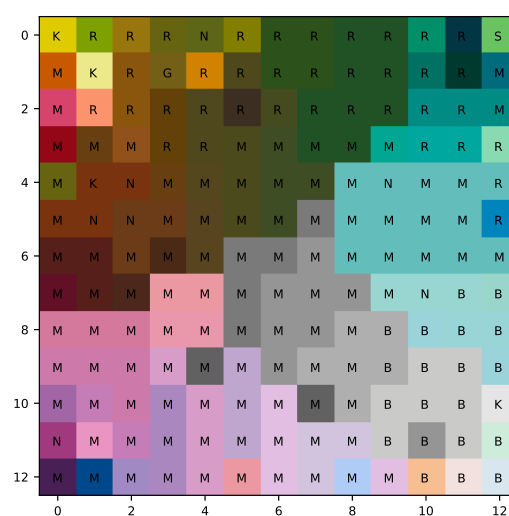
(b) Communicative Space



(c) Accuracy

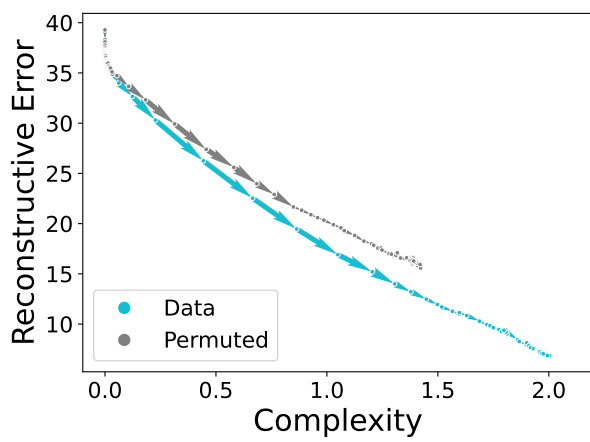


(d) Mode Maps

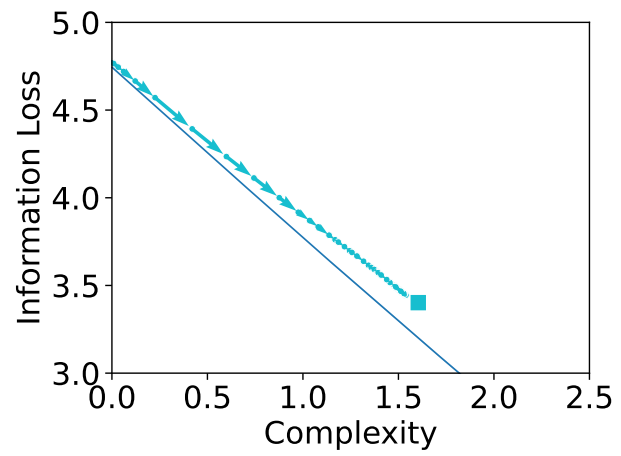


(e) Learnt SOM Cells

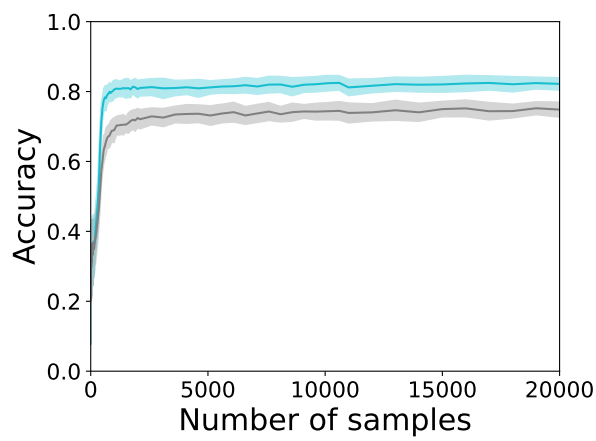
1.90. Tabla; $|\mathcal{W}| = 8$



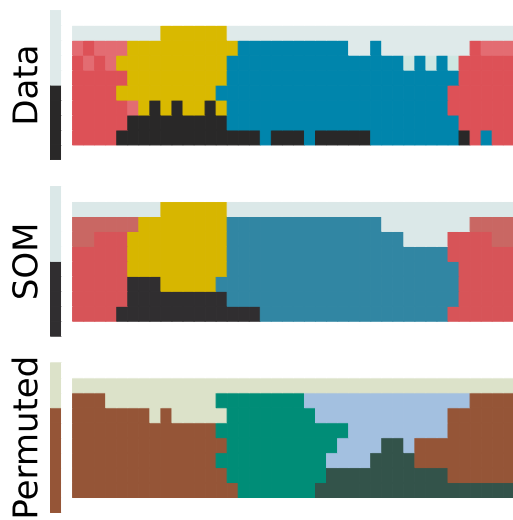
(a) Learning Space



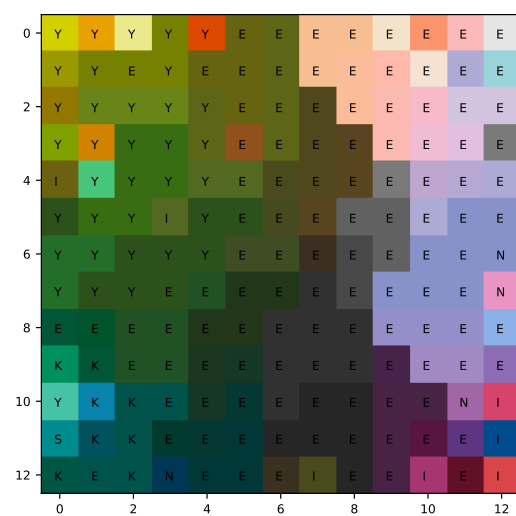
(b) Communicative Space



(c) Accuracy

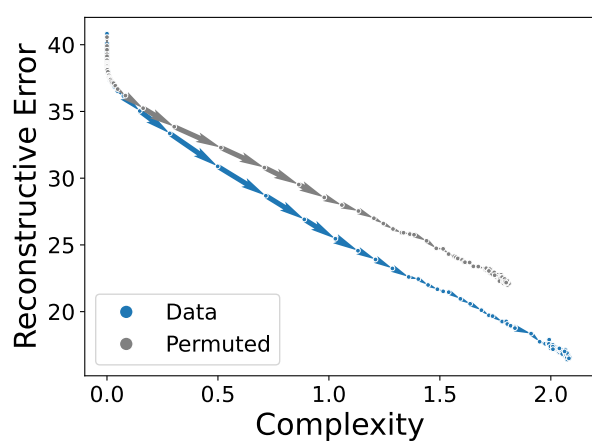


(d) Mode Maps

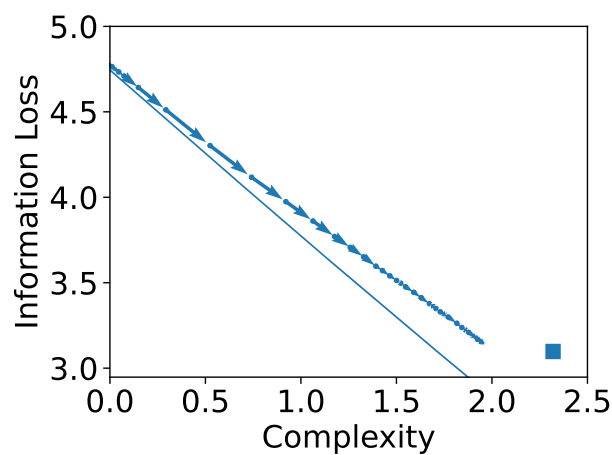


(e) Learnt SOM Cells

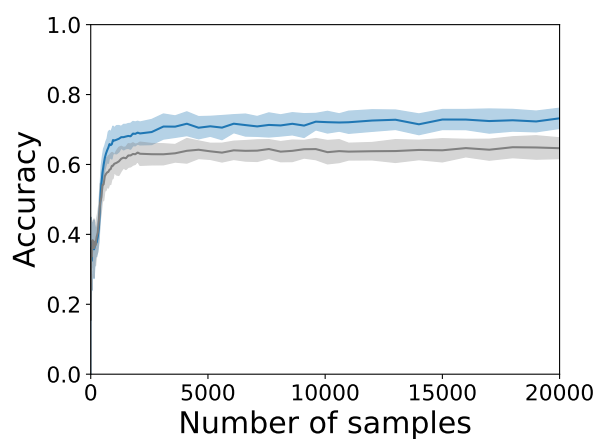
1.91. Tacana; $|\mathcal{W}| = 32$



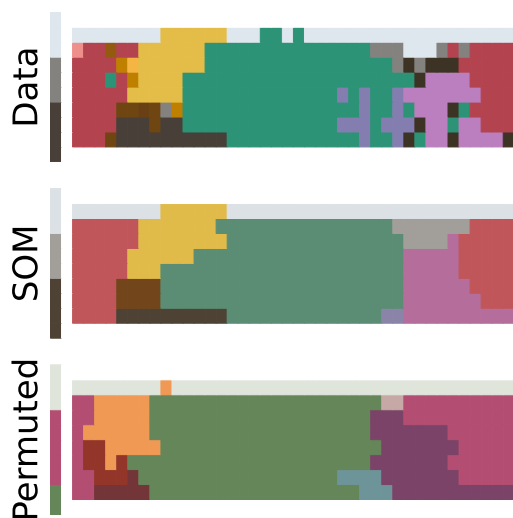
(a) Learning Space



(b) Communicative Space



(c) Accuracy

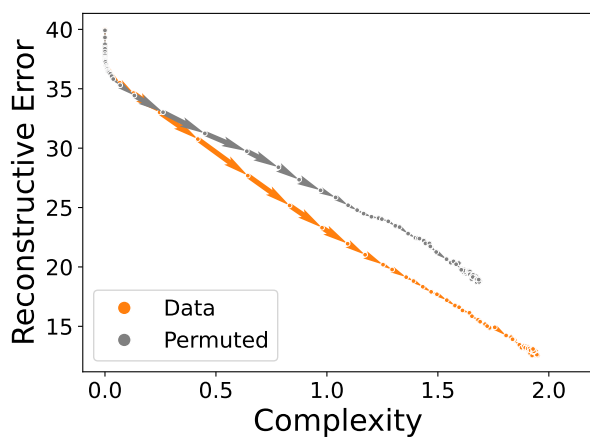


(d) Mode Maps

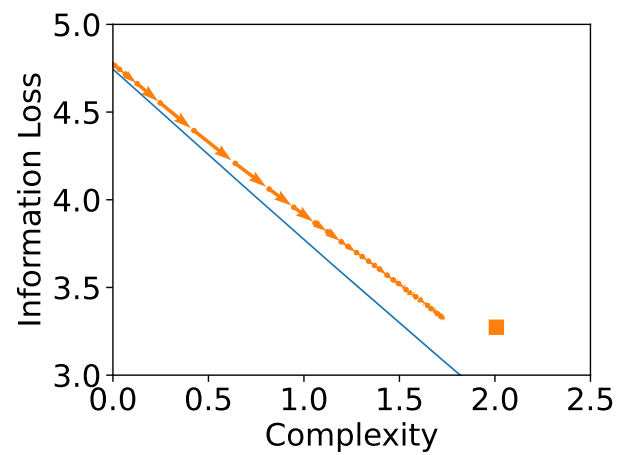


(e) Learnt SOM Cells

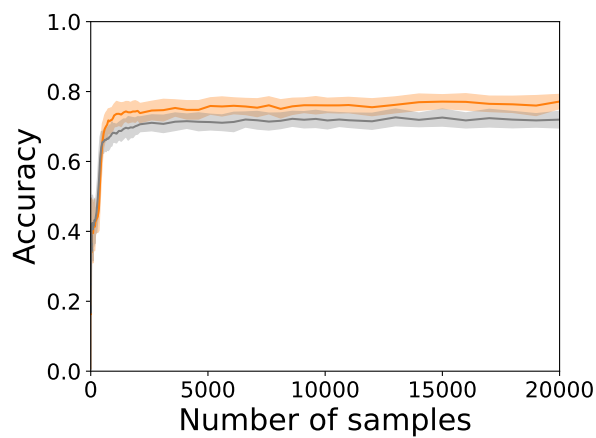
1.92. *Central Tarahumara*; $|\mathcal{W}| = 21$



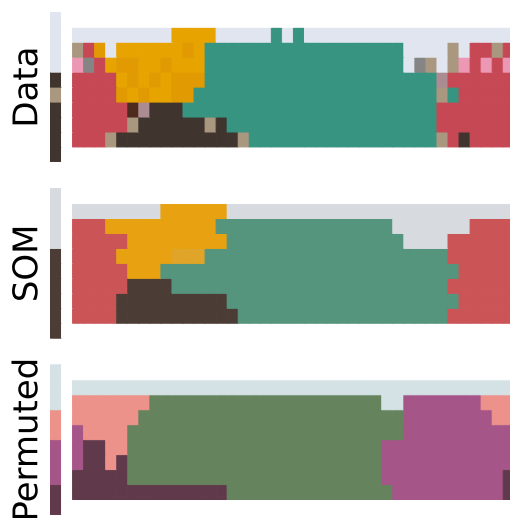
(a) Learning Space



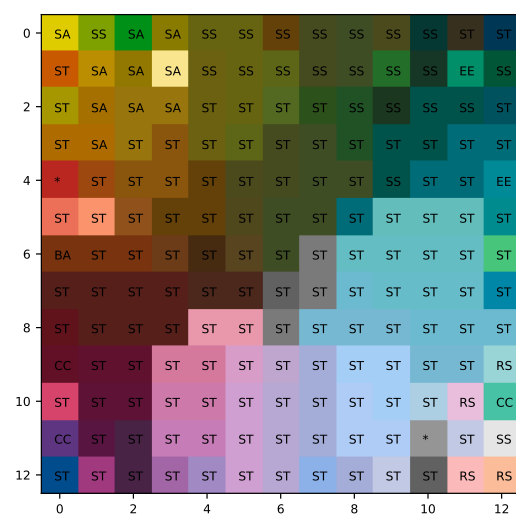
(b) Communicative Space



(c) Accuracy

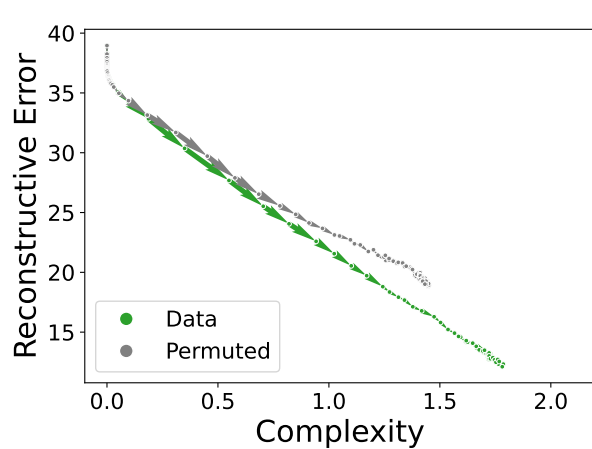


(d) Mode Maps

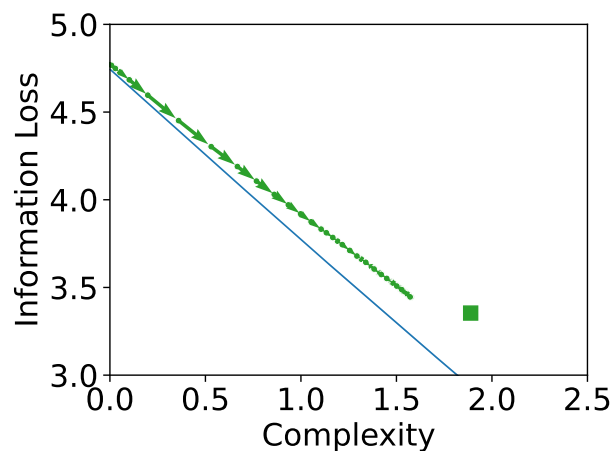


(e) Learnt SOM Cells

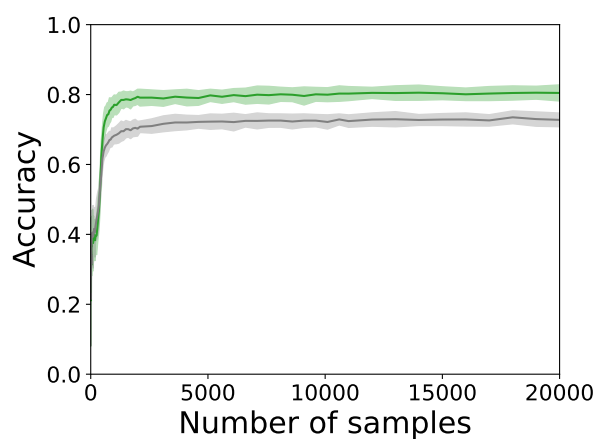
1.93. *W. Tarahumara*; $|\mathcal{W}| = 11$



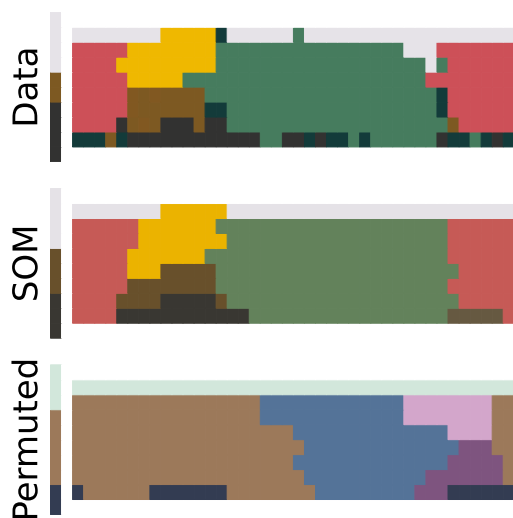
(a) Learning Space



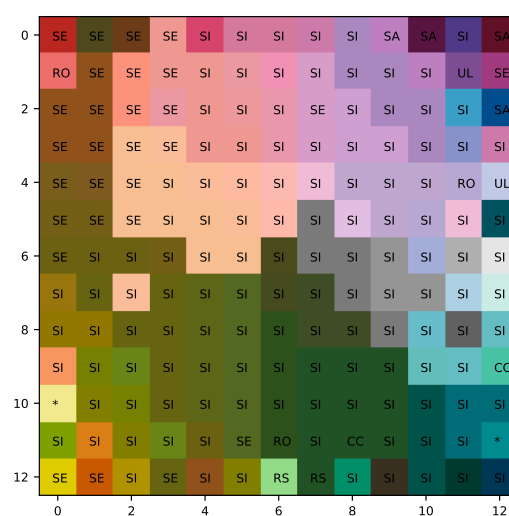
(b) Communicative Space



(c) Accuracy

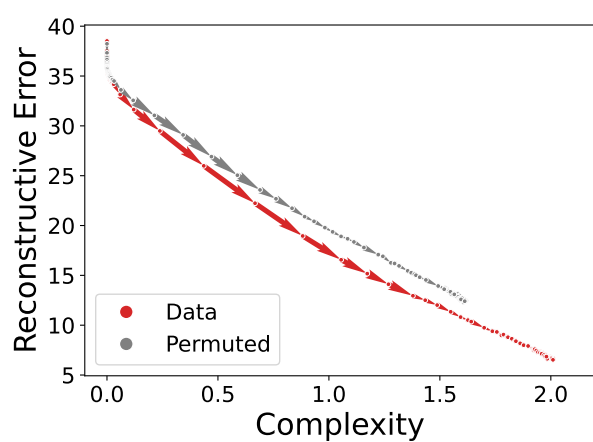


(d) Mode Maps

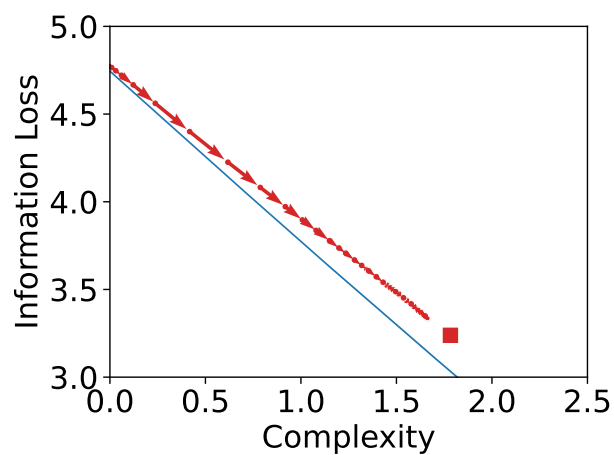


(e) Learnt SOM Cells

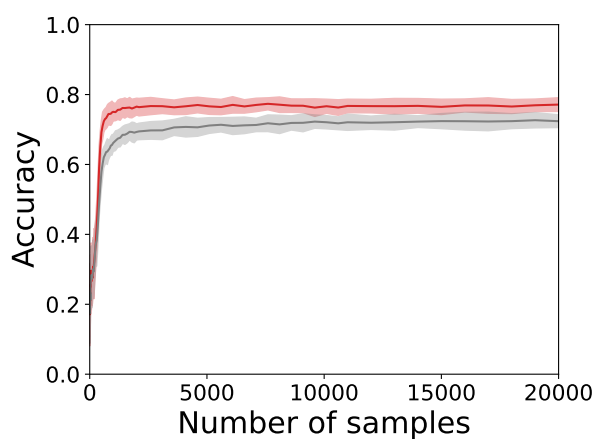
1.94. T_{boli} ; $|\mathcal{W}| = 10$



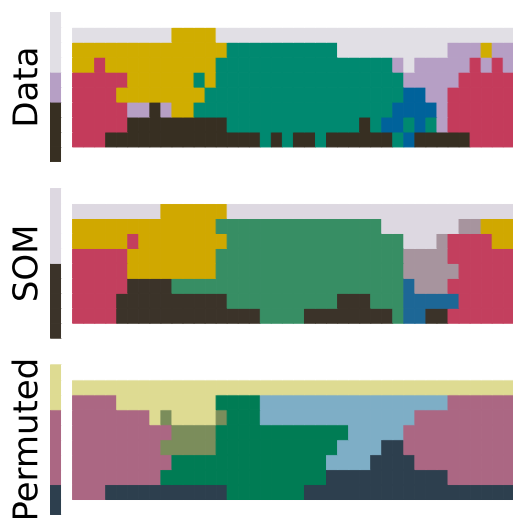
(a) Learning Space



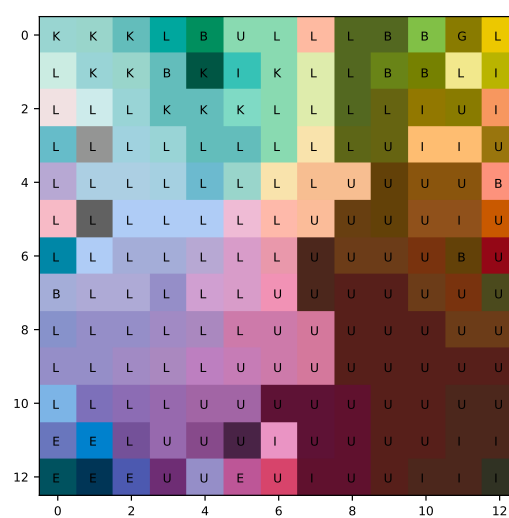
(b) Communicative Space



(c) Accuracy

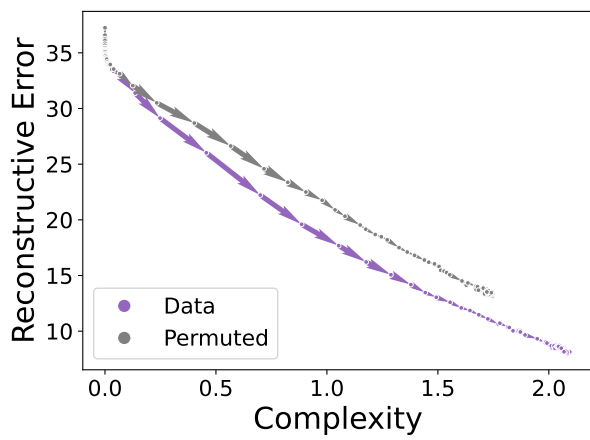


(d) Mode Maps

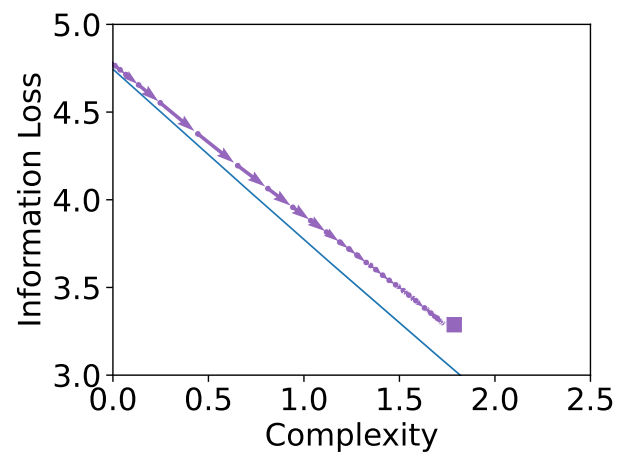


(e) Learnt SOM Cells

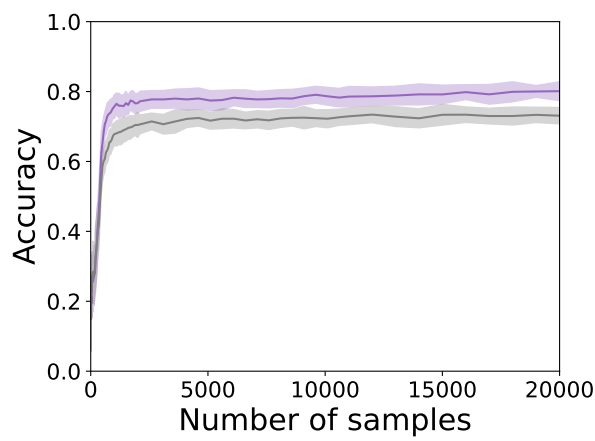
1.95. Teribe; $|\mathcal{W}| = 22$



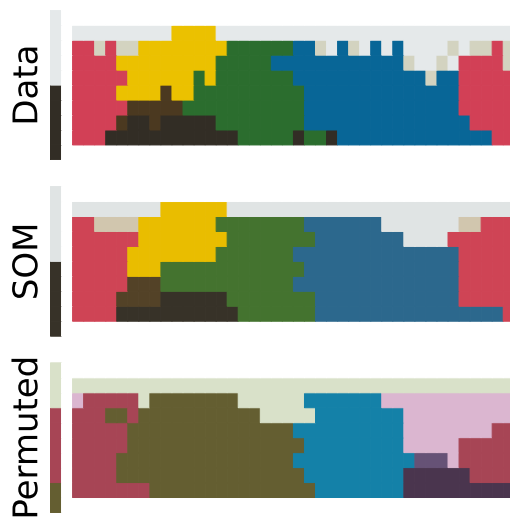
(a) Learning Space



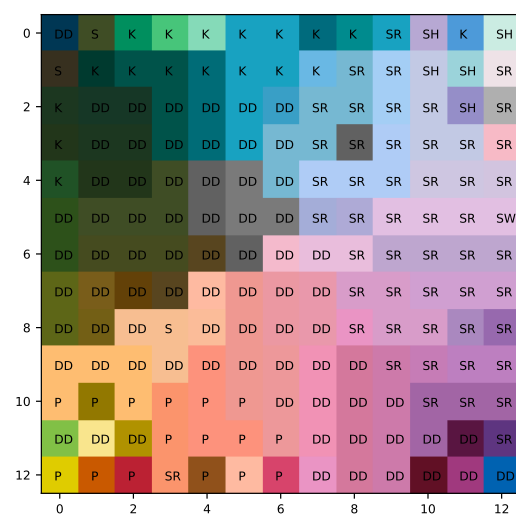
(b) Communicative Space



(c) Accuracy

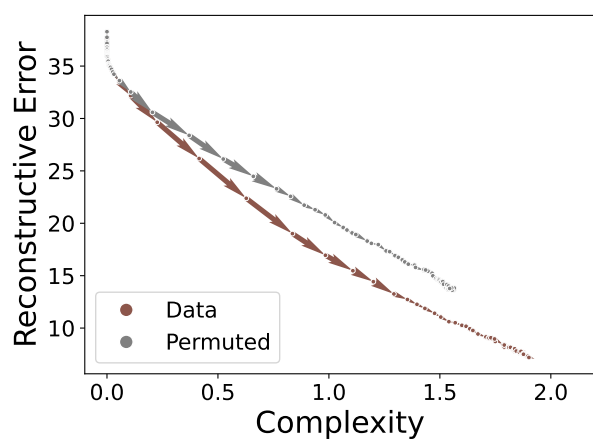


(d) Mode Maps

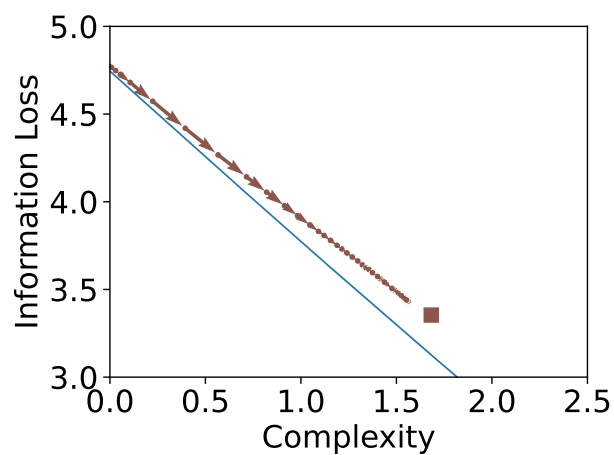


(e) Learnt SOM Cells

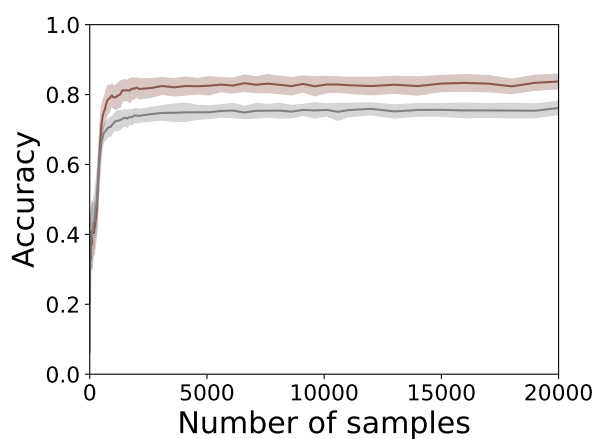
1.96. Ticuna; $|\mathcal{W}| = 11$



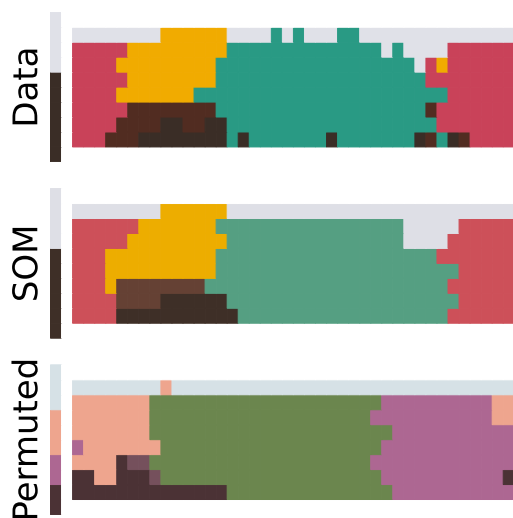
(a) Learning Space



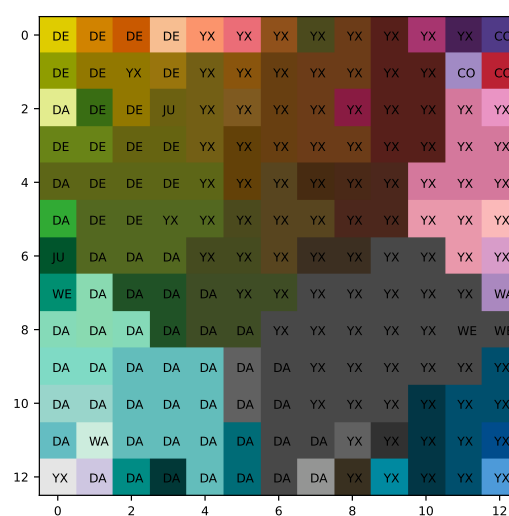
(b) Communicative Space



(c) Accuracy

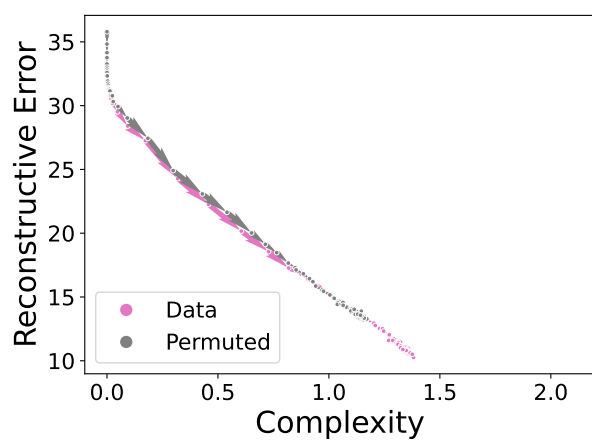


(d) Mode Maps

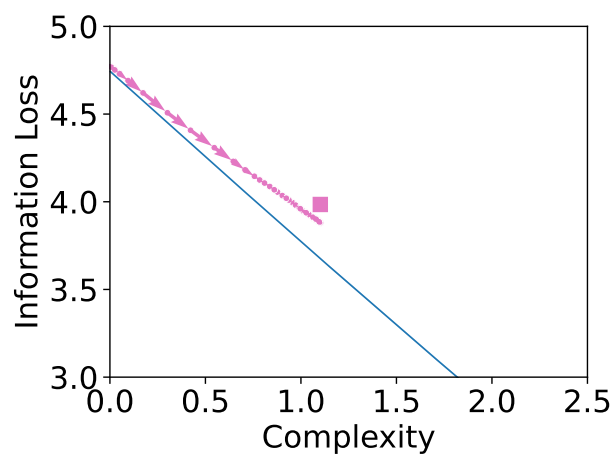


(e) Learnt SOM Cells

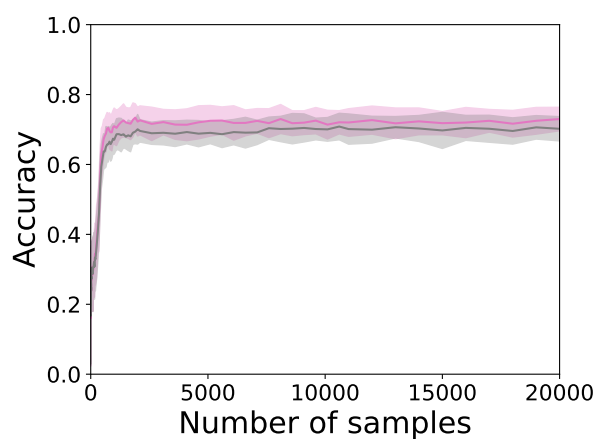
1.97. Tifal; $|\mathcal{W}| = 25$



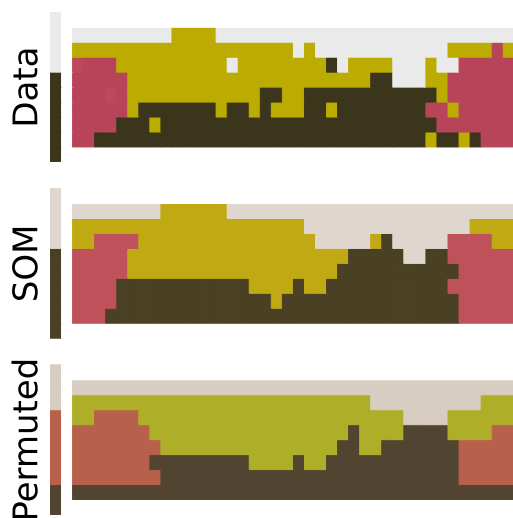
(a) Learning Space



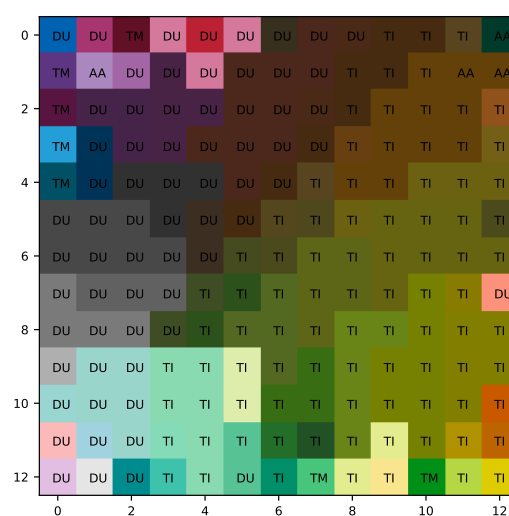
(b) Communicative Space



(c) Accuracy

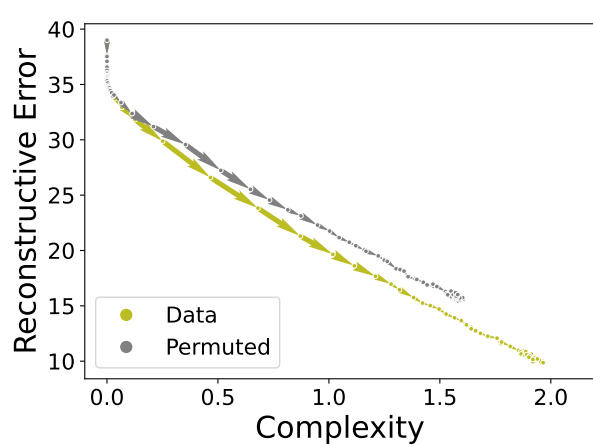


(d) Mode Maps

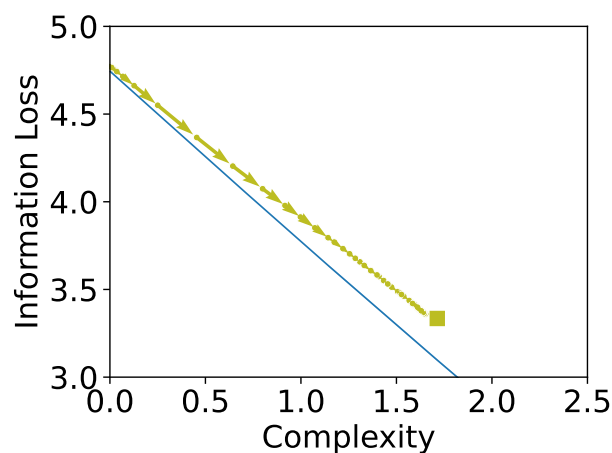


(e) Learnt SOM Cells

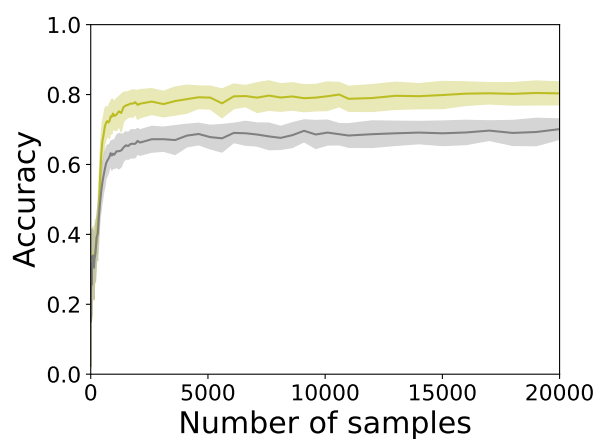
1.98. Tlapaneco; $|\mathcal{W}| = 14$



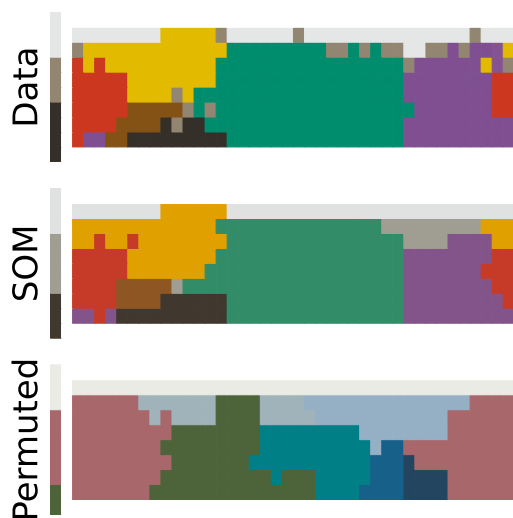
(a) Learning Space



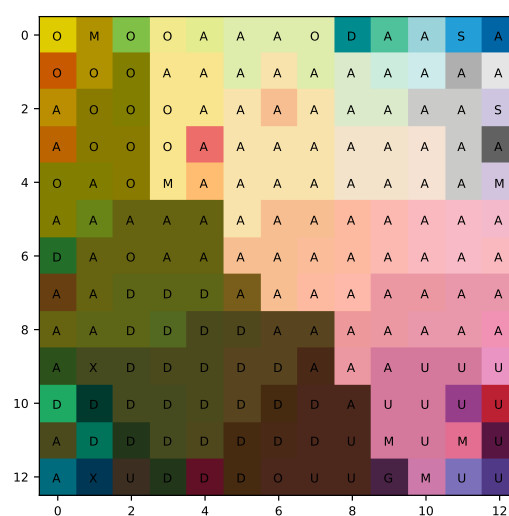
(b) Communicative Space



(c) Accuracy

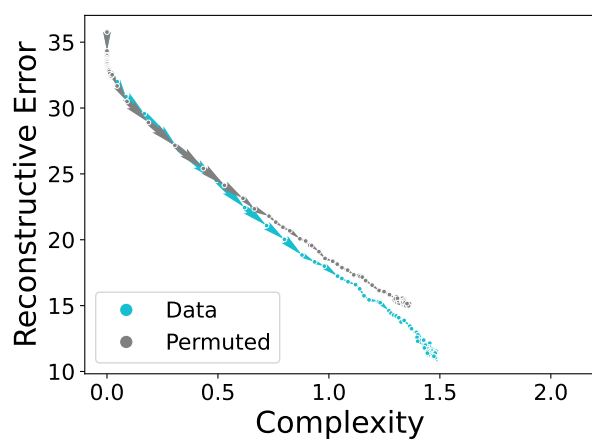


(d) Mode Maps

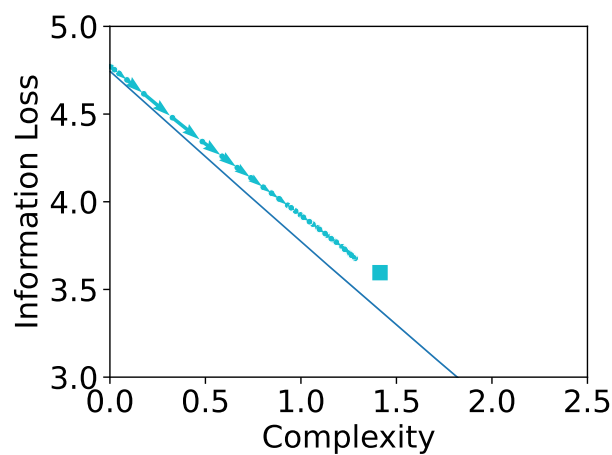


(e) Learnt SOM Cells

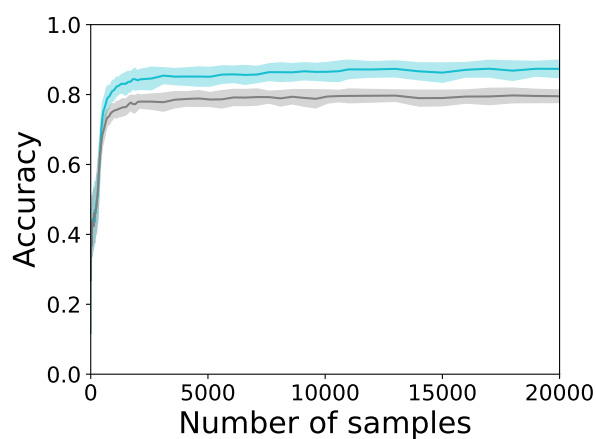
1.99. Tucano; $|\mathcal{W}| = 7$



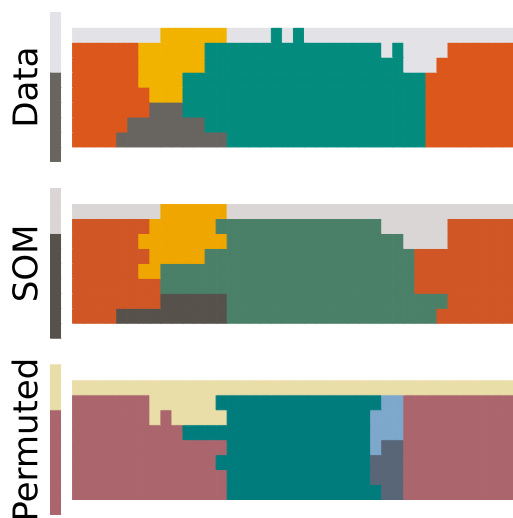
(a) Learning Space



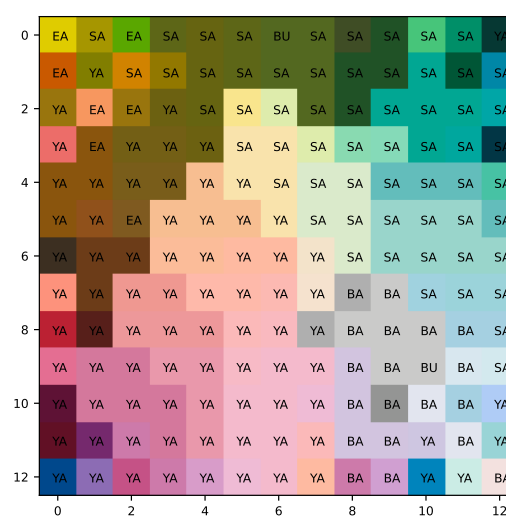
(b) Communicative Space



(c) Accuracy

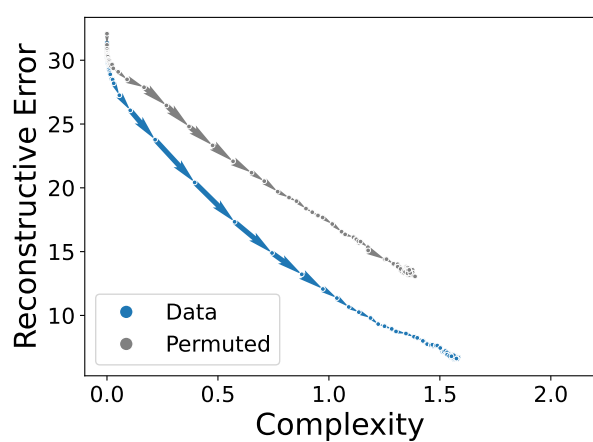


(d) Mode Maps

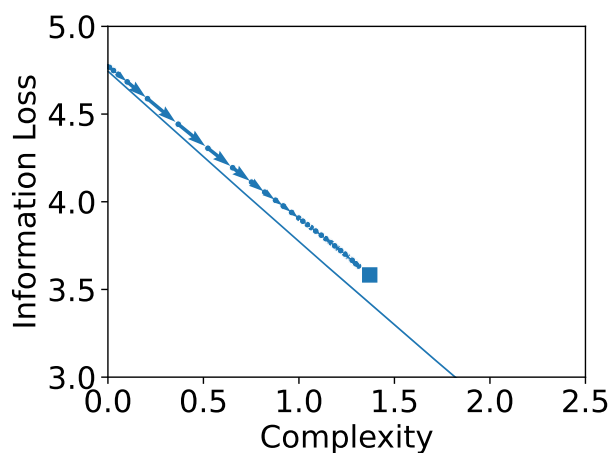


(e) Learnt SOM Cells

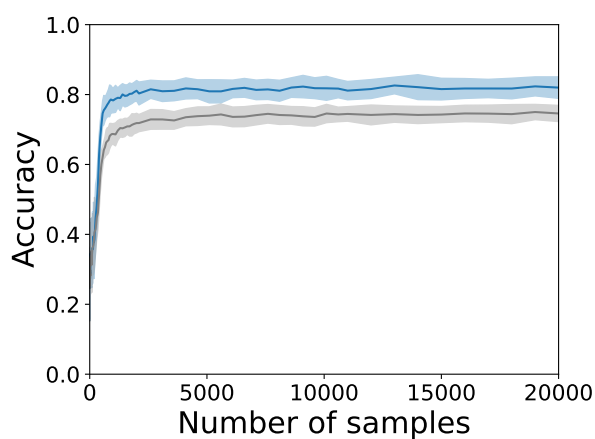
1.100. *Vagla*; $|\mathcal{W}| = 7$



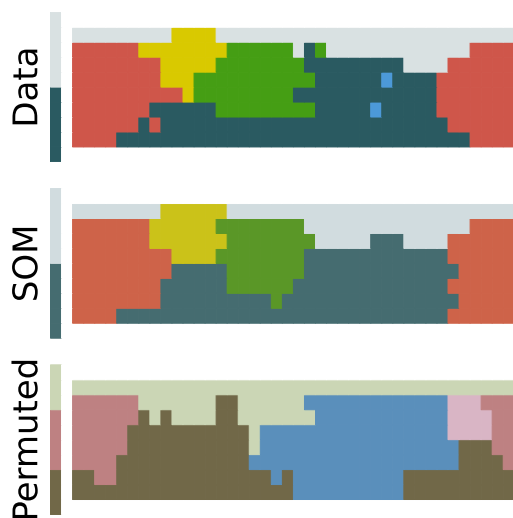
(a) Learning Space



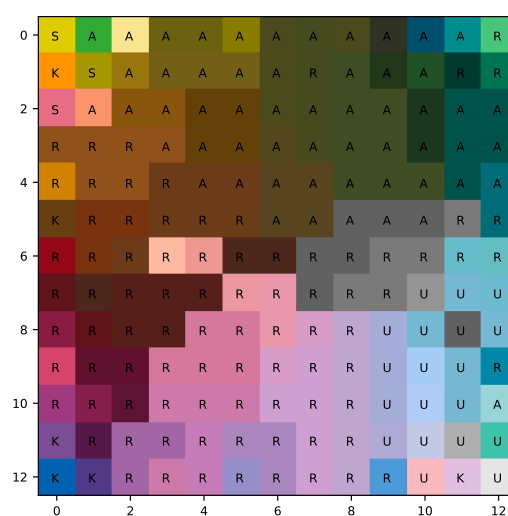
(b) Communicative Space



(c) Accuracy

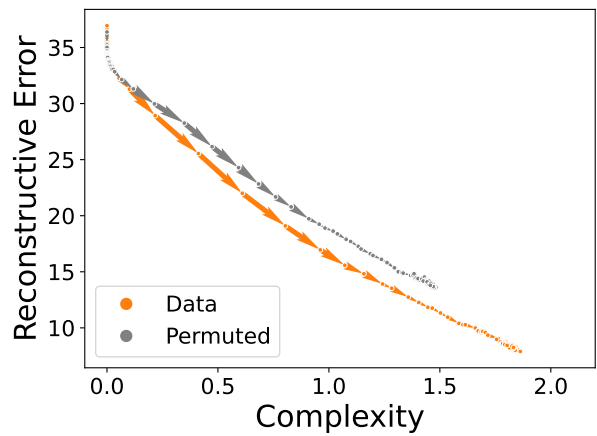


(d) Mode Maps

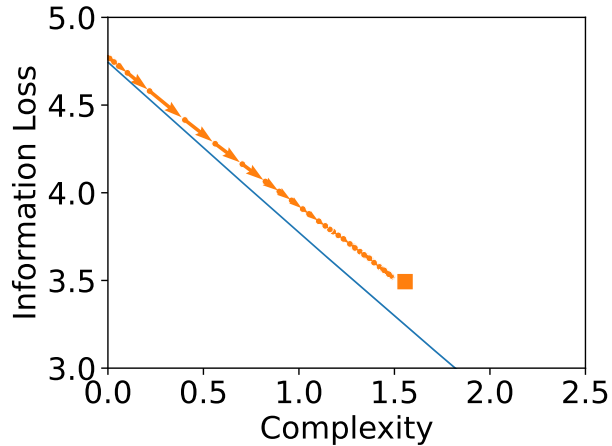


(e) Learnt SOM Cells

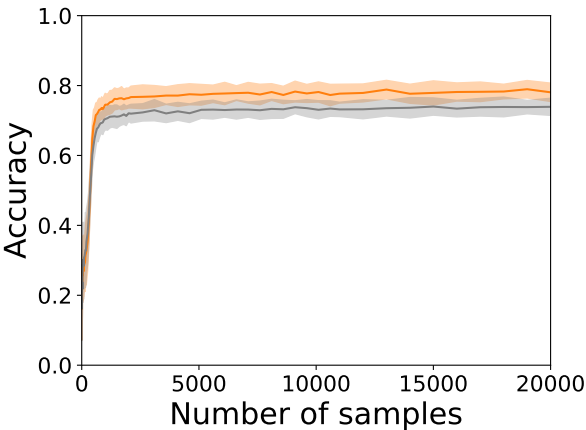
1.101. Vasavi; $|\mathcal{W}| = 11$



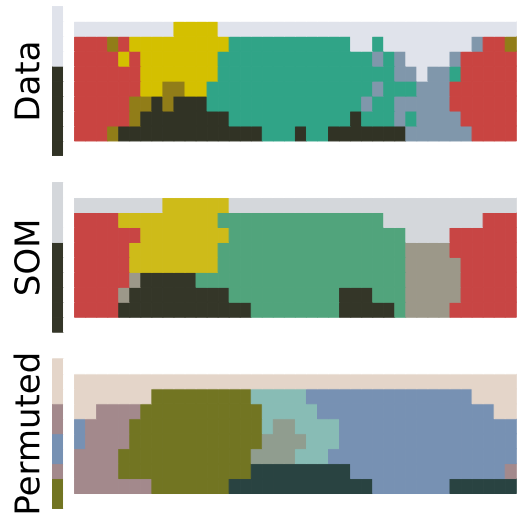
(a) Learning Space



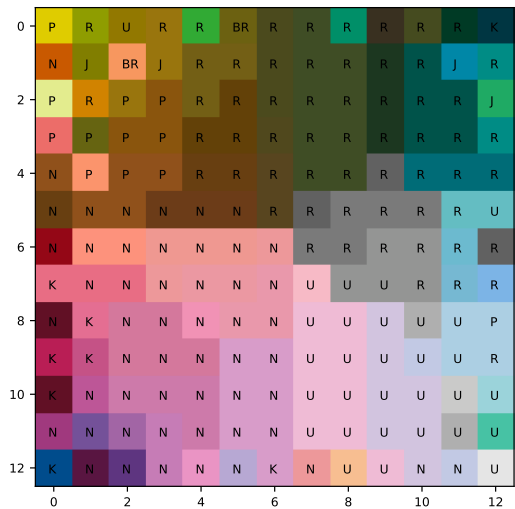
(b) Communicative Space



(c) Accuracy

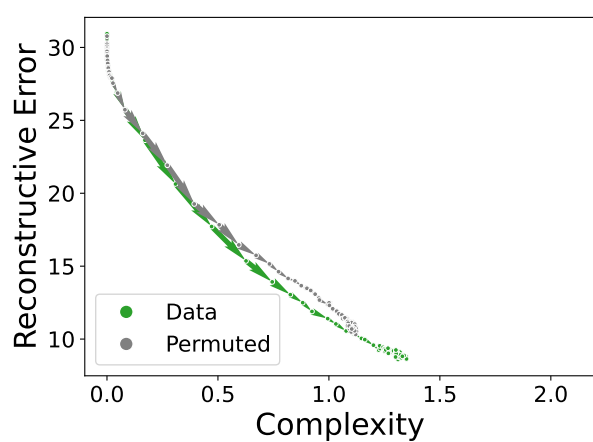


(d) Mode Maps

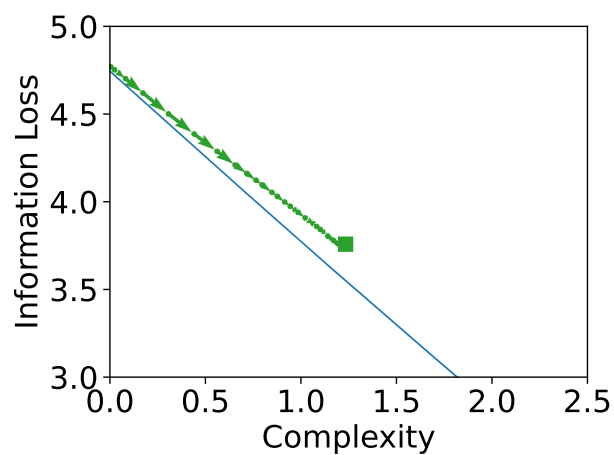


(e) Learnt SOM Cells

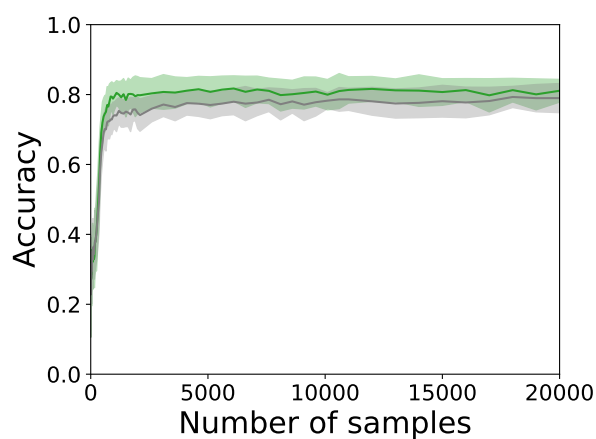
1.102. Waorani; $|\mathcal{W}| = 19$



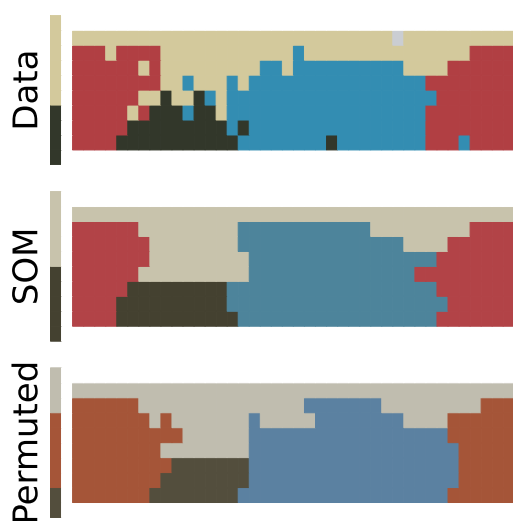
(a) Learning Space



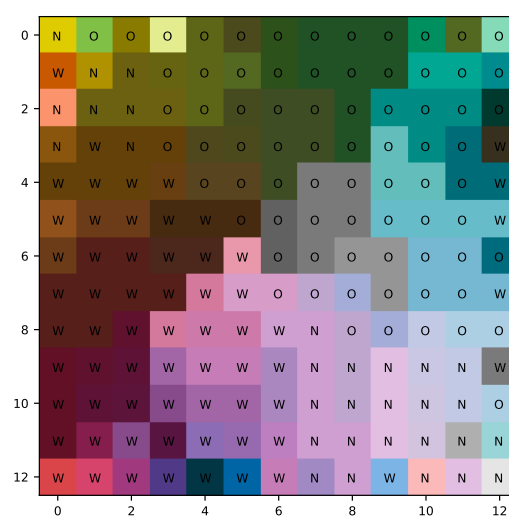
(b) Communicative Space



(c) Accuracy

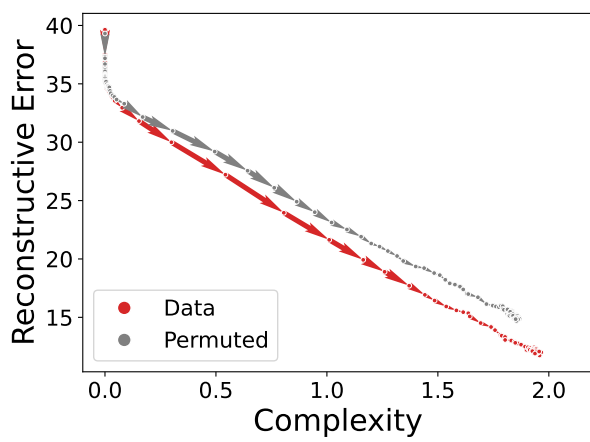


(d) Mode Maps

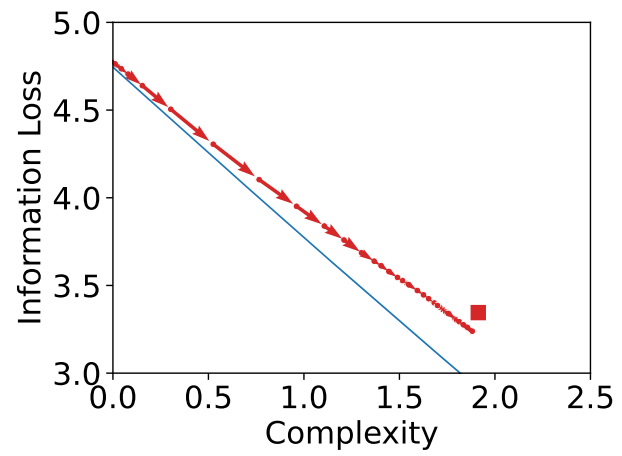


(e) Learnt SOM Cells

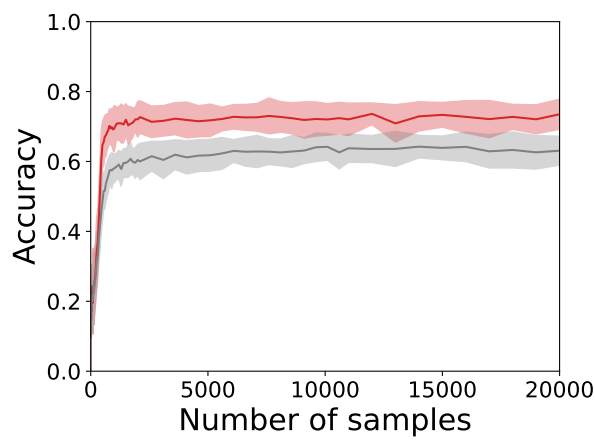
1.103. Walpiri; $|\mathcal{W}| = 63$



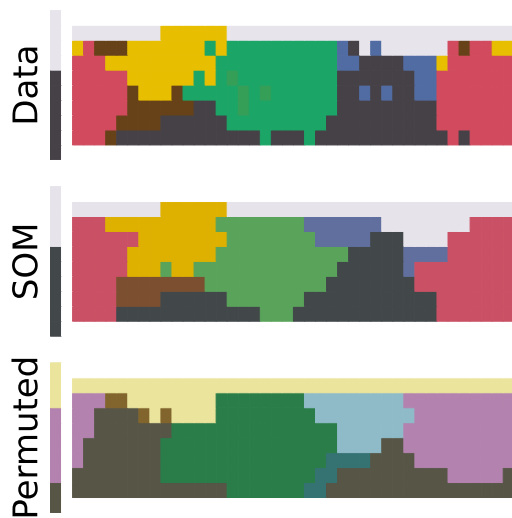
(a) Learning Space



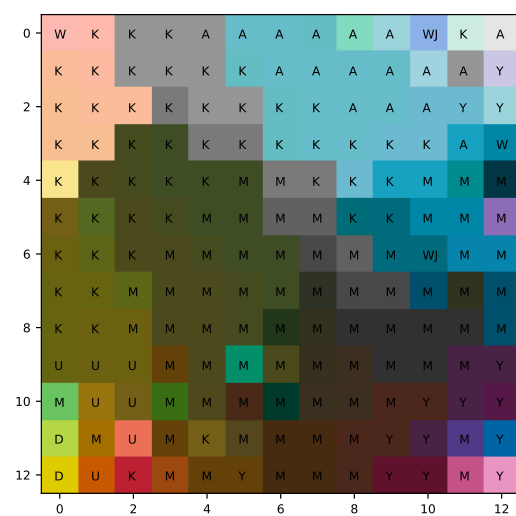
(b) Communicative Space



(c) Accuracy

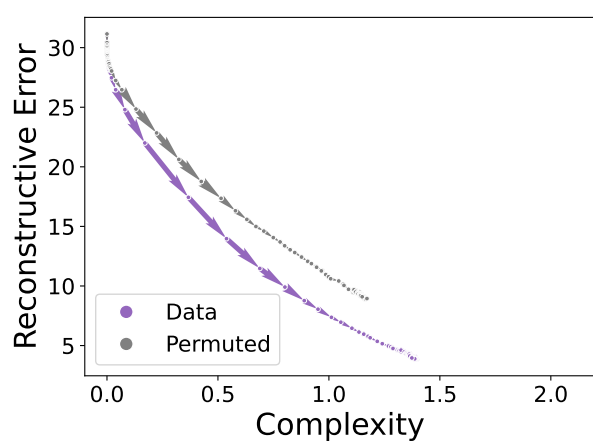


(d) Mode Maps

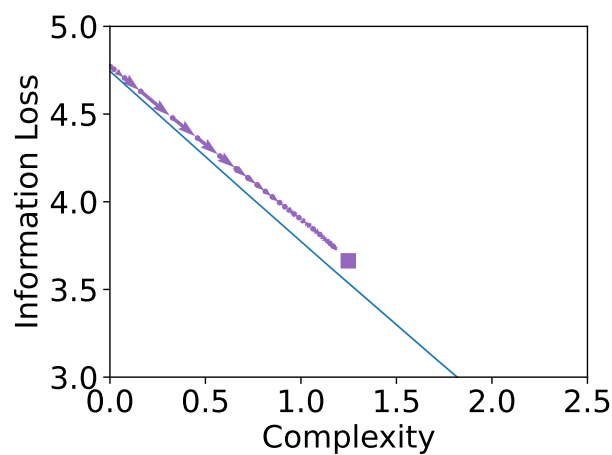


(e) Learnt SOM Cells

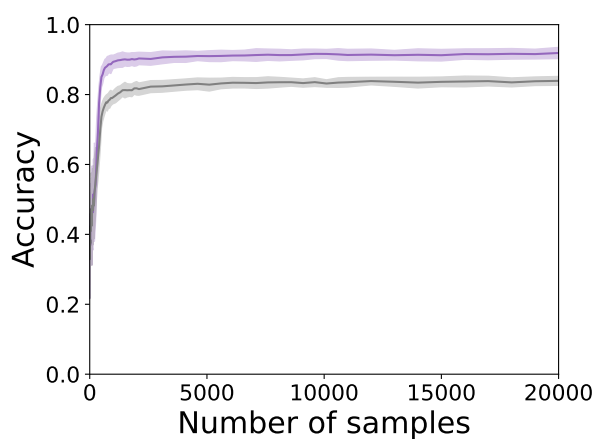
1.104. Wobe; $|\mathcal{W}| = 6$



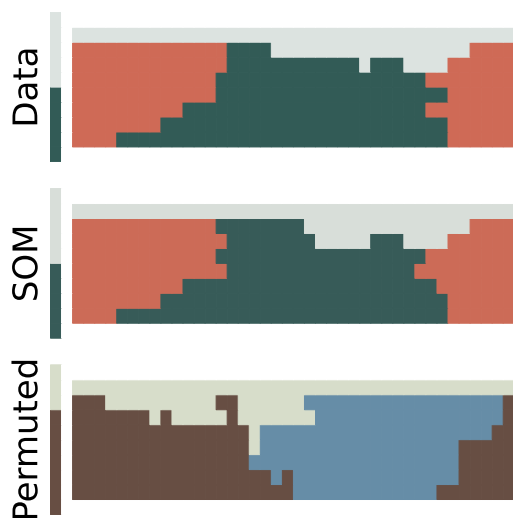
(a) Learning Space



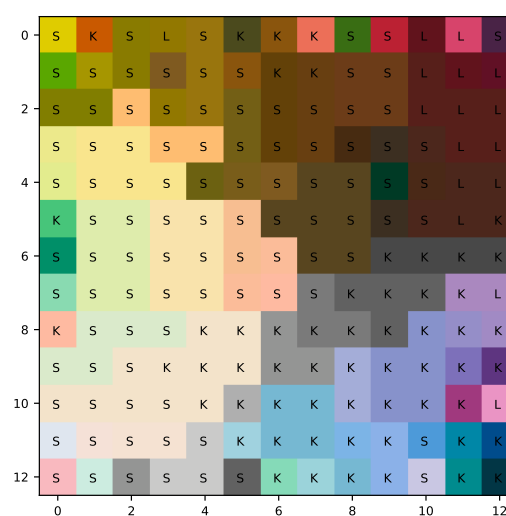
(b) Communicative Space



(c) Accuracy

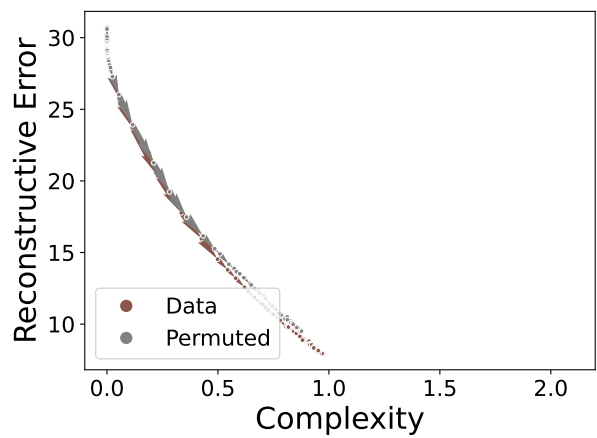


(d) Mode Maps

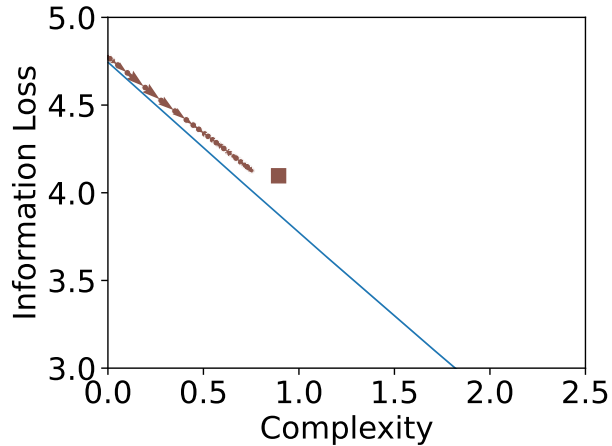


(e) Learnt SOM Cells

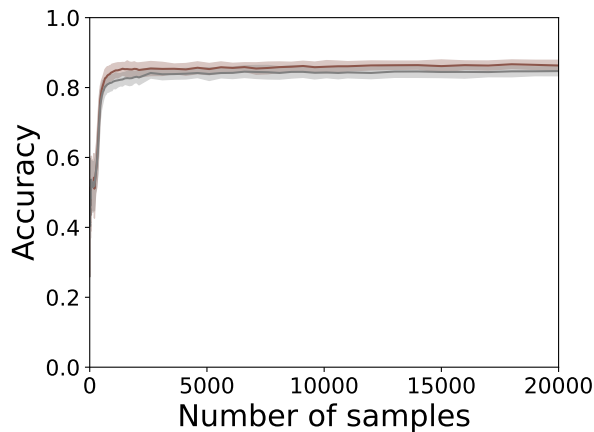
1.105. Yacouba; $|\mathcal{W}| = 4$



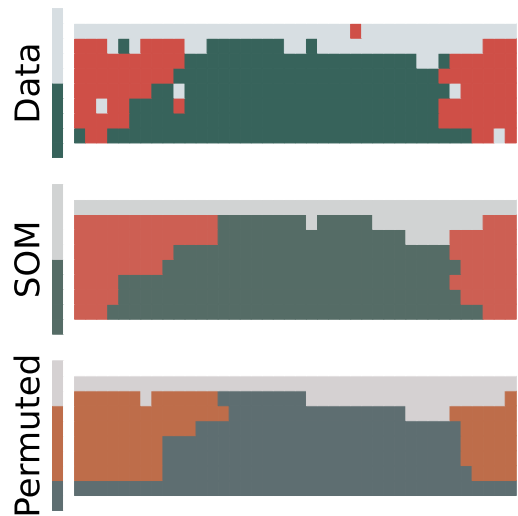
(a) Learning Space



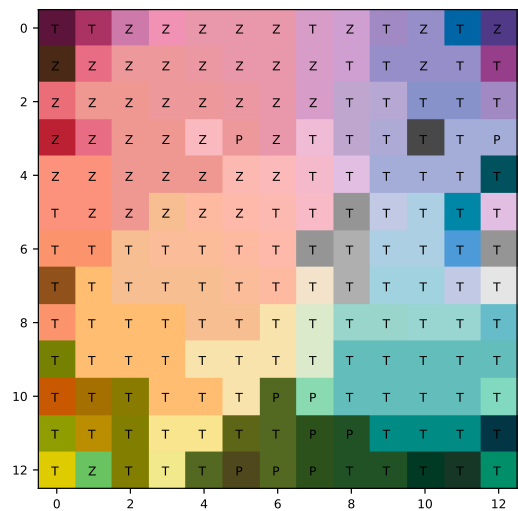
(b) Communicative Space



(c) Accuracy

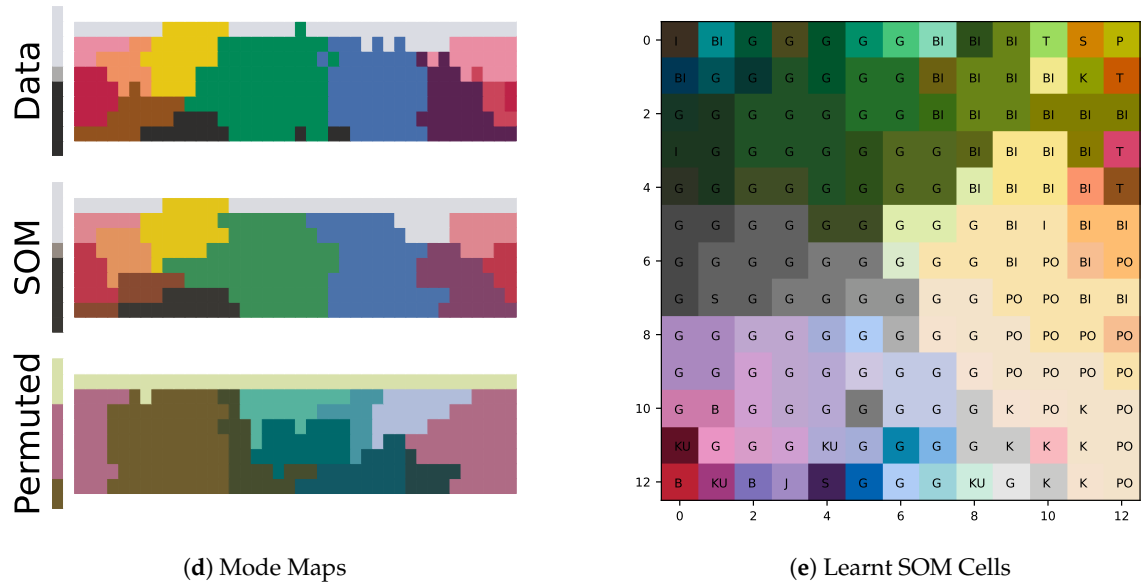
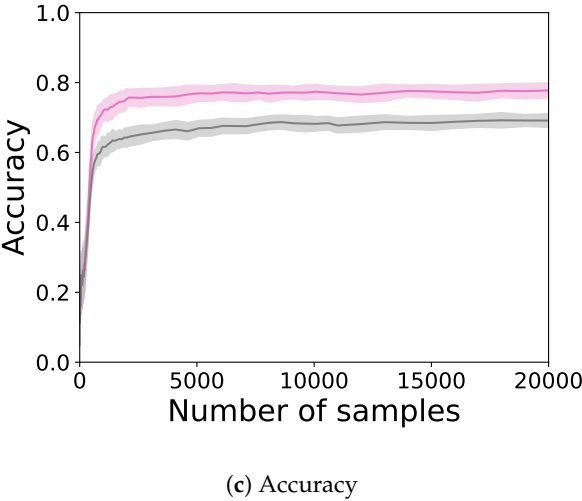
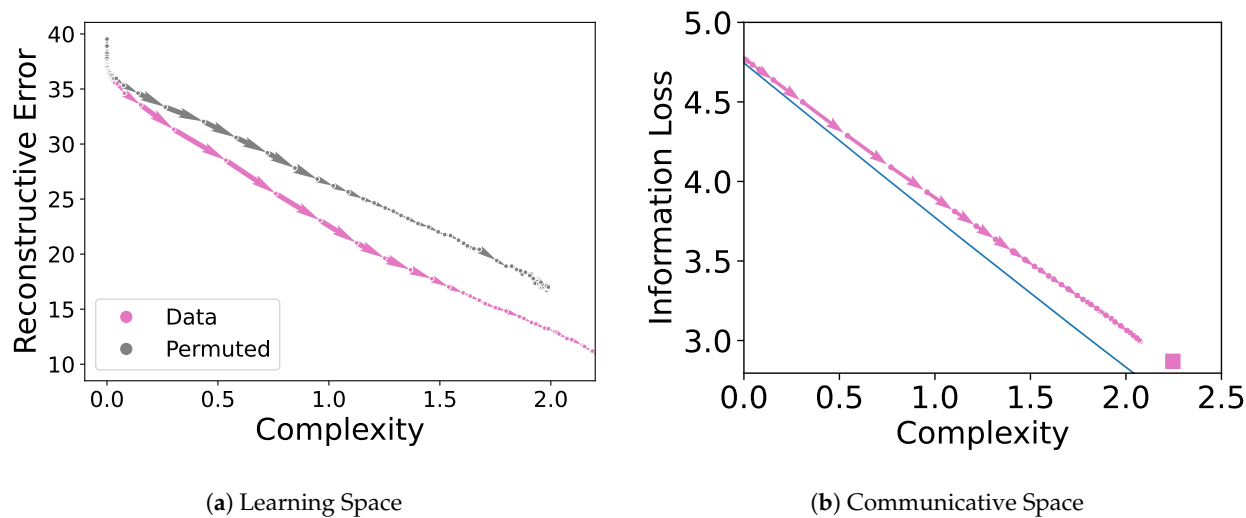


(d) Mode Maps

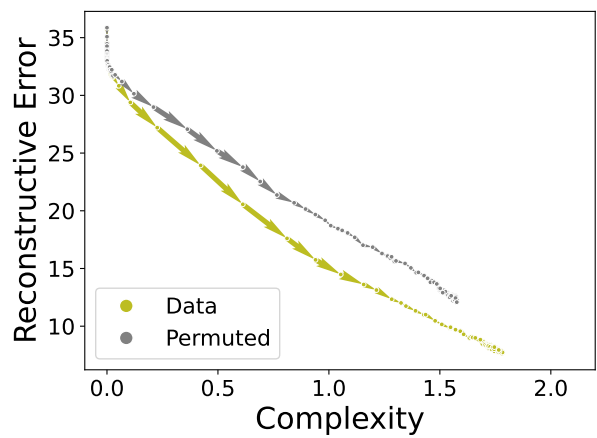


(e) Learnt SOM Cells

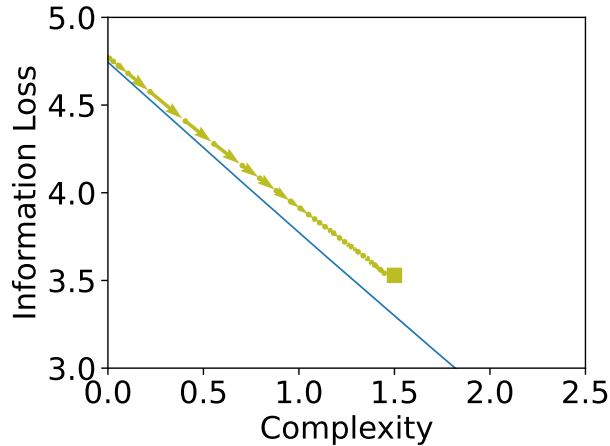
1.106. Yakan; $|\mathcal{W}| = 14$



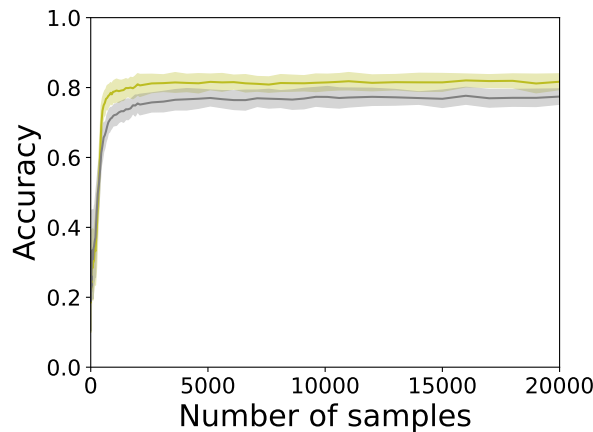
1.107. Yaminahua; $|\mathcal{W}| = 17$



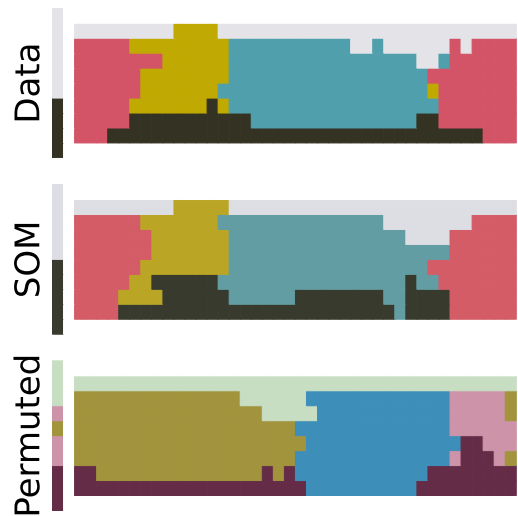
(a) Learning Space



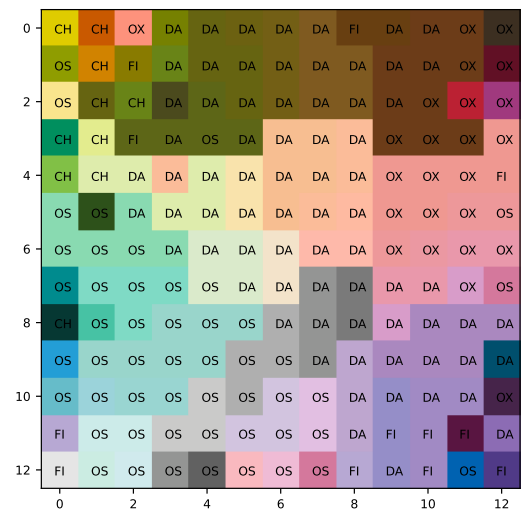
(b) Communicative Space



(c) Accuracy

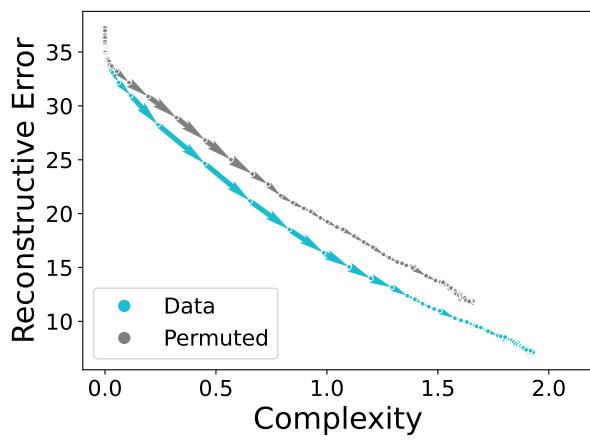


(d) Mode Maps

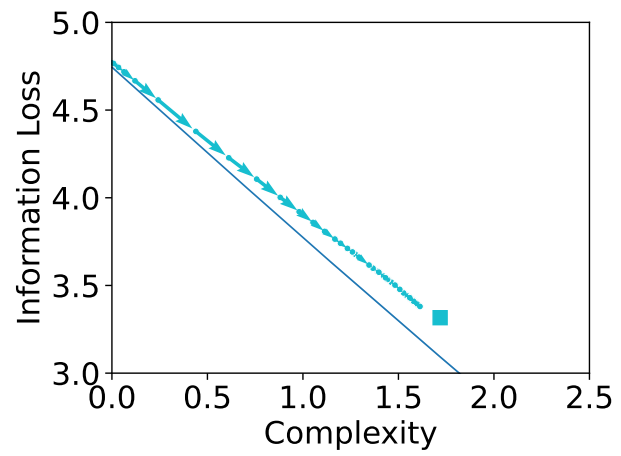


(e) Learnt SOM Cells

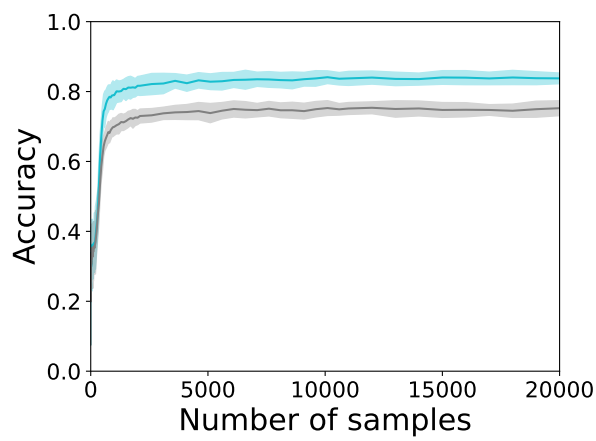
1.108. Yucuna; $|\mathcal{W}| = 9$



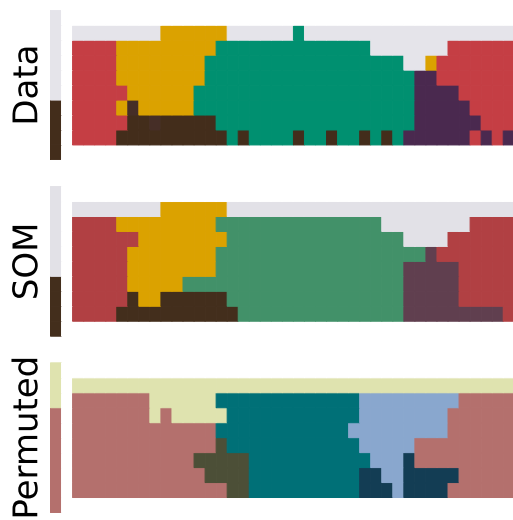
(a) Learning Space



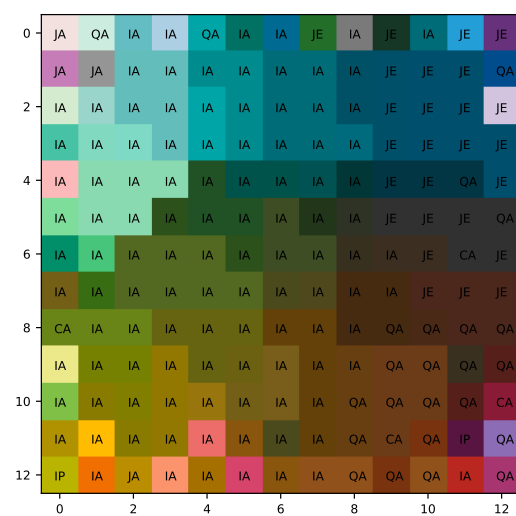
(b) Communicative Space



(c) Accuracy

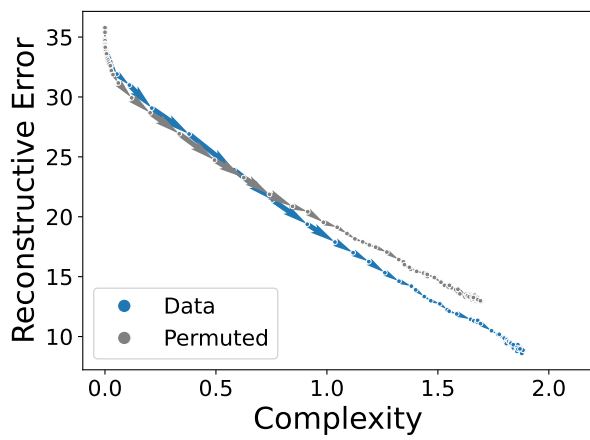


(d) Mode Maps

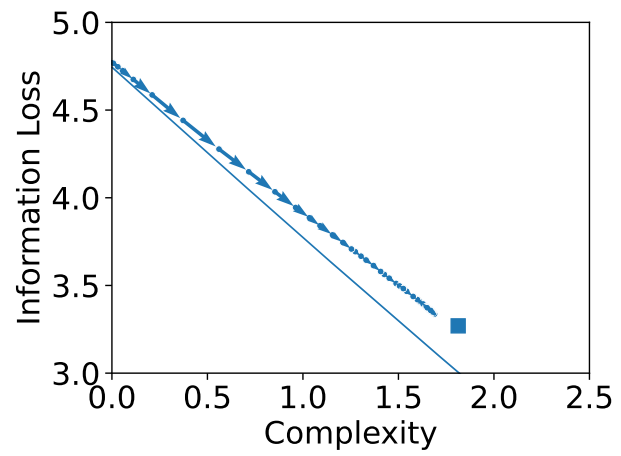


(e) Learnt SOM Cells

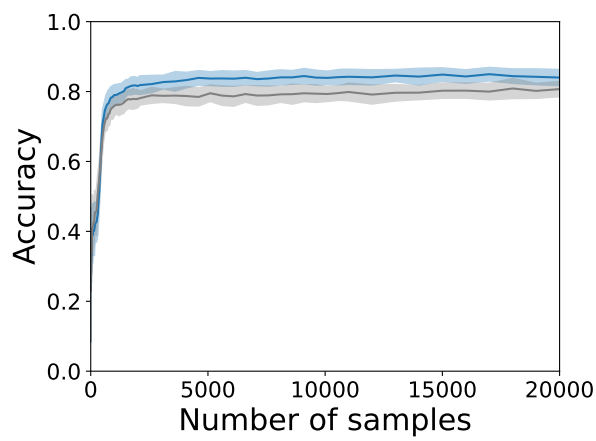
1.109. Yupik; $|\mathcal{W}| = 26$



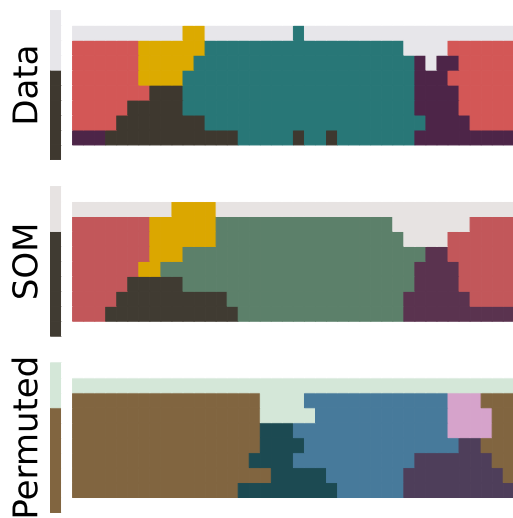
(a) Learning Space



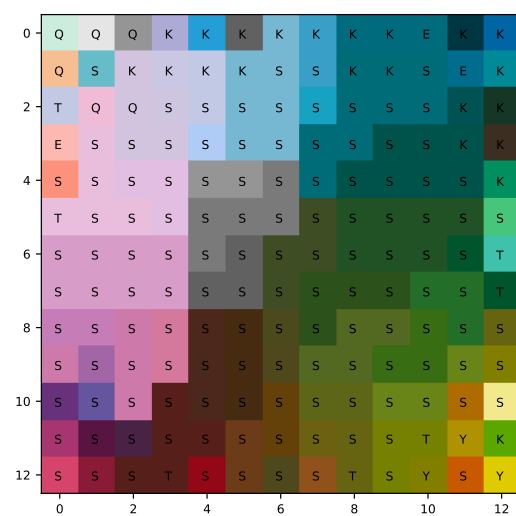
(b) Communicative Space



(c) Accuracy

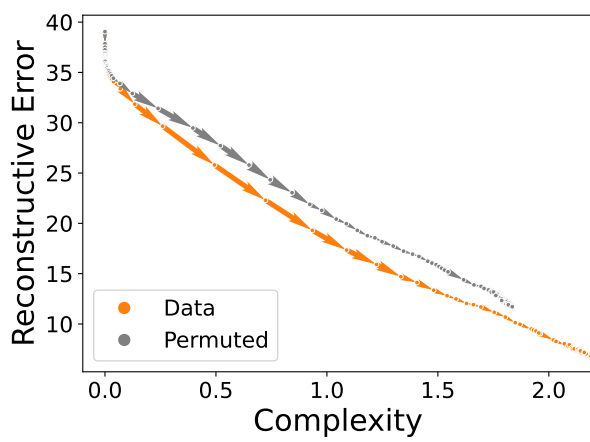


(d) Mode Maps

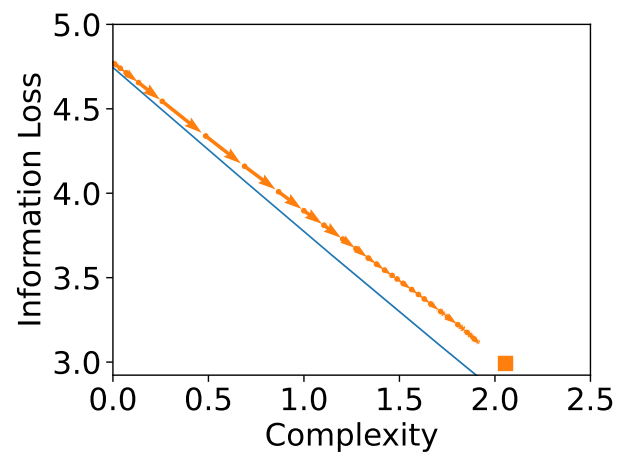


(e) Learnt SOM Cells

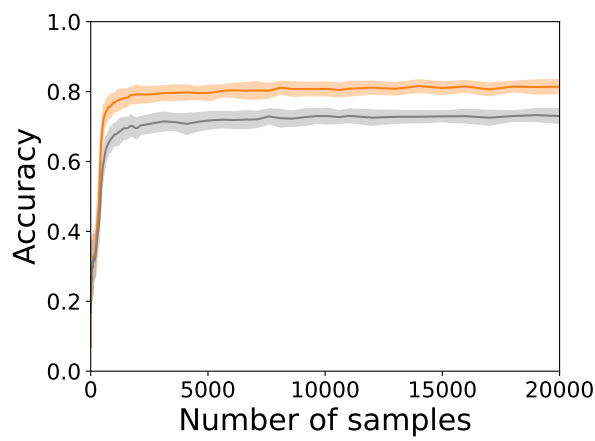
1.110. Zapoteco; $|\mathcal{W}| = 13$



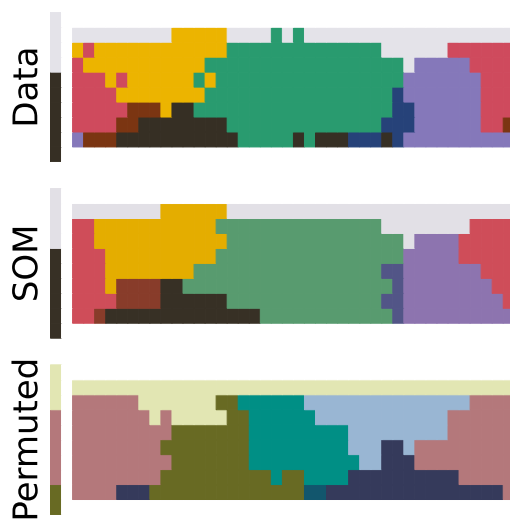
(a) Learning Space



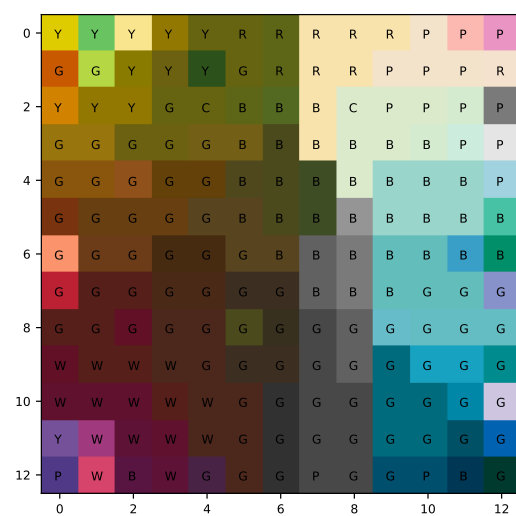
(b) Communicative Space



(c) Accuracy



(d) Mode Maps



(e) Learnt SOM Cells

Reference

1. Cook, R.S.; Kay, P.; Regier, T. The world color survey database. In *Handbook of Categorization in Cognitive Science*; Elsevier: Amsterdam, The Netherlands, 2005; pp. 223–241.