

Special Issue

Data Compression and Its Application in AI

Message from the Guest Editors

Research in the past decade has shown that data compression and AI are deeply related to each another. For example, predicting pixel values is one of the most important tasks that can be improved using deep learning for image recognition. In contrast, deep learning for image recognition can be accelerated by using compressed images as the training data. Such are applications of lossy compression to AI. Moreover, we can also find a close relation between lossless compression and AI, e.g., in language processing. As part of machine translation, pairs of sentences in the target and source languages are given as the training data. In fact, it is known that the translation accuracy can be improved by directly learning from the compressed training data. In this way, data compression and AI are developing while interacting with each other. Addressing this Special Issue, we invite a wide range of theoretical/empirical research on both AI for data compression and compression for AI.

Guest Editors

Prof. Dr. Hiroshi Sakamoto

Graduate School of Computer Science and Systems Engineering,
Kyushu Institute of Technology, 680-4 Kawazu, Iizuka-shi, Fukuoka
820-8502, Japan

Dr. Shinichi Yamagiwa

1. Faculty of Engineering, Information and Systems, University of
Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8573, Japan
2. JST, PRESTO, 4-1-8 Honcho, Kawaguchi, Saitama 332-0012, Japan

Deadline for manuscript submissions

closed (31 January 2022)



Electronics

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Impact Factor 2.6
CiteScore 6.1



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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
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Prof. Dr. Flavio Canavero

Department of Electronics and Telecommunications, Politecnico di
Torino, 10129 Torino, Italy

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