

## Special Issue

# Advancements in Personalized Learning for Decentralized and Federated Environments

### Message from the Guest Editor

Recent advancements in Machine Learning have led to the establishment of foundational models for vision, audio and language. These models are trained and deployed in a centralized manner, requiring vast amounts of storage and computer power as well as bandwidth. Edge devices offer an attractive alternative for both the training as well as for the inference of these large models. Federated and decentralized learning and personalized learning unlock the potential for bringing smaller and more efficient models to the edge. Additionally, personalized learning can enable the deployment of models designed to run on high-end platforms on small and resource-restricted platforms that are only able to support tinyML models. This Special Issue is dedicated to exploring methods, tools, and algorithms that focus on Federated and Decentralized approaches for personalized learning in the realms of vision, audio, and language, emphasizing the deployment and utilization of Edge devices.

### Guest Editor

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### Deadline for manuscript submissions

closed (30 April 2025)

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