Department of Computer Science
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Presents

A Deep Meta Computation Model for Heterogeneous Data Learning
by
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M.Sc. Thesis Proposal Presentation

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Deep meta learning, also known as learning to learn, has emerged as a potential learning paradigm that can learn to perform a good generalization on unseen tasks proficiently with only few training samples, especially when the training samples are extremely insufficient. Unfortunately, almost all the existing deep meta learning models so far are unable to learn features for heterogeneous data, especially multi-modal data. In this work, we propose a deep meta computation model by generalizing the metric-based deep meta learning models from vector space to tensor space. Especially, each multi-modal data is represented as a tensor, while all hidden layers in both inner-level classifier and meta-learner are also represented as tensors. In order to fully learn the underlying data distribution, a tensor distance is applied to measure the dissimilarity between the embeddings in the tensor space. We have preliminarily done some experiments to evaluate the presented deep meta computation model and show the advantages from the results.