
[2A4][General Session] 2. Machine Learning

座長: 椿 真史 (産業技術総合研究所)

Wed. Jun 6, 2018 5:20 PM - 7:00 PM Room A (4F Emerald Hall)

5:40 PM - 6:00 PM

[2A4-02] Detecting community structure in layered neural networks for diagram recognition

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Keywords: Deep learning, Network analysis

Layered neural networks (LNNs) have realized high recognition performance for various real datasets, however, it is difficult for human beings to understand their training results. Conventionally, we have proposed network analysis methods for extracting simplified structure of a trained LNN, by detecting communities of units based on the similarity of connection patterns. In this work, we propose a new method for representing the community structure in a LNN, by using connection weights between pairs of communities. By experiment using the dataset of diagram recognition, we show that our new method provides clues for interpreting the roles of each community in a LNN, in terms of which community in input-side adjacent layer is the most important for it in prediction.