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DEPARTMENT OF
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SEMINAR

2024 SERIES

Do You Believe Your Data When You Train a Neural Network?

DATE & TIME

13 DEC 2024 (FRI) 10:30 – 11:30 AM

VENUE

WLB 211, The Wing Lung Bank Building for the Business Studies, Shaw Campus

PROF. PETIA RADEVA

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Head of the Consolidated Research Group (AIBA)
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ABSTRACT

The creation of large-scale datasets annotated by humans inevitably introduces noisy labels, leading to reduced generalization in deep-learning models. Sample selection-based learning with noisy labels is a recent approach that exhibits promising upbeat performance improvements. The selection of clean samples amongst the noisy samples is an important criterion in the learning process of these models. In this work, we delve deeper into the clean-noise split decision and highlight the aspect that effective demarcation of samples would lead to better performance. We propose a per-class-based local distribution of samples and demonstrate the effectiveness of this approach in having a better clean-noise split. Moreover, we propose a new metric to identify samples that are hard to classify, based on the coincidence score for deep ensembles which measures the agreement of its individual models. We validate the proposed metric using two public food datasets on different backbone architectures and show the improvements compared to the conventional deep neural network training using different performance metrics.

SPEAKER'S BIOGRAPHY

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