The Hong Kong University of Science and Technology

Seminar on Business Data Science

Department of ISOM

Flexible Bayesian nonparametric transfer learning with large-scale models

by

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Date: 23 October 2024 (Wednesday)

Time: 2:00pm – 3:00pm

Venue: G/F Case Room G001 (LSK Business Building)

Abstract

Transfer learning has become a powerful technique for utilizing pretrained models in various downstream tasks. However, conventional transfer learning methods often only use pretrained models as initializers, missing the opportunity to fully exploit the advantages of pretraining. In this presentation, I will introduce a Bayesian method for transfer learning that transforms a pretrained model into an adaptive prior, making it applicable to a wide array of downstream tasks. This approach leverages a Bayesian nonparametric framework, incorporating a Dirichlet process prior on the data distribution to infer the parameters of interest. The proposed method is not only efficient to train and parallelize but also demonstrates robustness across diverse downstream applications, especially in the presence of distributional shifts.

Bio

Prof. Juho Lee is an associate professor at the Kim Jaechul Graduate School of AI, KAIST. He earned his Ph.D. at POSTECH, specializing in Bayesian methods for machine learning. Following his Ph.D., he conducted postdoctoral research at the Computational Statistics & Machine Learning department at the University of Oxford, where he focused on Bayesian models for network data and Bayesian deep learning. He then worked as a research scientist at AITRICS, a healthcare AI startup, before joining KAIST in 2020. His research primarily focuses on Bayesian methods for deep learning models, with additional interests in meta-learning, generative models, and geometric deep learning.

All interested are welcome!
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