

DEPARTMENT OF COMPUTER SCIENCE

SEMINAR

2025 SERIES

Challenges and Opportunities for Federated Learning with Foundation Models

DATE & TIME

19 MAY 2025 (MON) 10:00 - 11:00 AM

VENUE

DLB637, 6/F, DAVID C. LAM BUILDING, SHAW CAMPUS

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ABSTRACT

The rise of large foundation models underscores the importance and relevance of federated learning as a key research direction. As LLMs become the mainstream in machine learning development, the research focus is shifting from model architecture design to addressing challenges related to privacy preservation and distributed learning in order to efficiently leverage privately owned valuable but sensitive data. Advances in federated learning have the potential to unlock the value of large models by enabling efficient and scalable training while safeguarding sensitive data. The long-term healthy development of this field requires continuously attracting high-quality data owners to collaboratively build models and share the benefits. In this talk, I will share some of the efforts in this emerging area from the Trustworthy Federated Ubiquitous Learning (TrustFUL) Lab at Nanyang Technological University, Singapore. These include methods for quantifying participant



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