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DEPARTMENT OF COMPUTER SCIENCE 計算機科學系

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SEMINAR

2025 SERIES

Vertical Application of LLMs and Horizontal Expansion of Small Models in Intelligent Medicine

DATE & TIME

24 JUN 2025 (Tue) 4:00 - 5:00 PM

VENUE

JC3 UG03, JOCKEY CLUB CAMPUS OF CREATIVITY

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ABSTRACT

The challenges of vertical applications of large language models (LLMs) include: 1) Issues such as data quality and annotation difficulties, scarcity of domain data samples, high annotation costs, and uneven data distribution; 2) Limited model generalization capabilities, requiring deep integration of domain knowledge with domain ontologies or knowledge graphs to enhance reasoning, and the "black box" nature of large models necessitating the development of explainability technologies; 3) Challenges like computational resource and deployment costs, privacy and security concerns, rapid updates of domain knowledge, and the need for continuous model learning. The development of intelligent medicine requires customized large models, the construction of cross-modal knowledge engines, and exploration of collaborative architectures for privacy computing and edge intelligence to achieve an ecological application of "universal base + vertical plug-ins." Through case studies, I will demonstrate the research paradigms of intelligent medicine and digital medicine our team has established over recent years for vertical applications of LLMs, including data standard construction, secure sharing of multi-source data, application scenarios in specialized diseases, and discussions on the future of intelligent medicine and health data science, as well as approaches for horizontal expansion of small models.

SPEAKER'S BIOGRAPHY

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