

# DISTINGUISHED LECTURE SERIES 2024/25

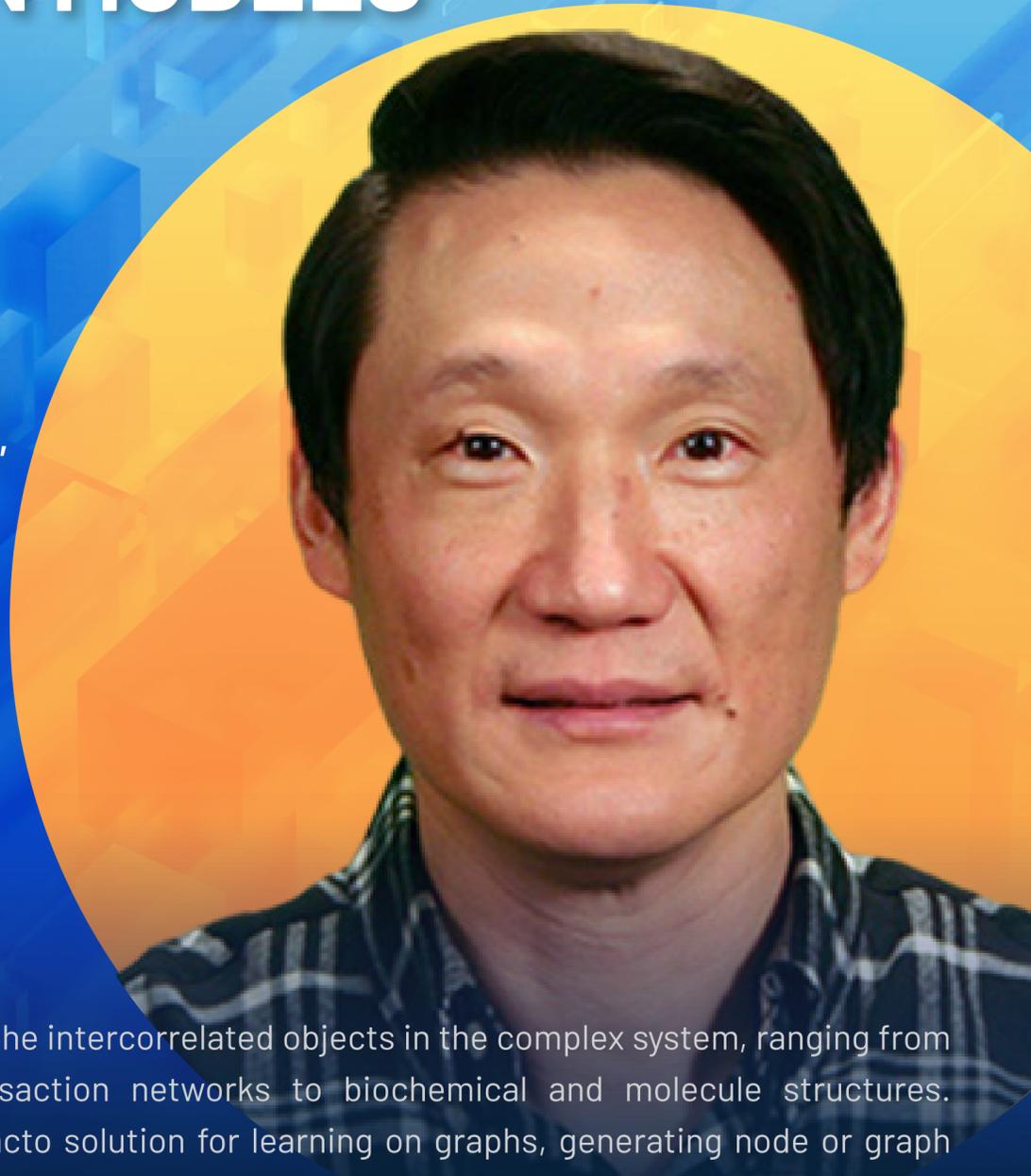
## GEOMETRIC DEEP GRAPH LEARNING: A NEW PERSPECTIVE ON GRAPH FOUNDATION MODELS

**6 DEC 2024 (FRI)**  
**10:00–11:00 AM (HKT)**

Mr. & Mrs. Lee Siu Lun Lecture Theatre (WLB205),  
The Wing Lung Bank Building for Business Studies,  
Shaw Campus

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### Abstract:

Graph is a ubiquitous non-Euclidean structure, describing the intercorrelated objects in the complex system, ranging from social networks, transportation systems, financial transaction networks to biochemical and molecule structures. Nowadays, graph neural networks are becoming the de facto solution for learning on graphs, generating node or graph embeddings in representation space, such as the traditional Euclidean space. However, a natural and fundamental question that has been rarely explored is: which representation space is more suitable for complex graphs? In fact, the "flat" Euclidean space is suitable for grid structures but is not geometrically aligned with generic graphs with complex structures. Thus, it is interesting to explore deep graph learning in different geometric spaces. This talk will delve into the fascinating properties of mixing various geometric spaces (e.g., hyperbolic and hyperspherical spaces), grounded in the elegant framework of Riemannian geometry, and will discuss recent advancements in tasks such as classification, clustering, contrastive learning, graph structure learning, and continual graph learning. With graph foundation models drawing increasing attention, the talk will also cover preliminary work on building a foundation model for graph structures by exploring mixed geometric spaces. These endeavors pave the way for the next generation of deep graph learning.

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Speaker's Biography



Event Registration