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Invited Speaker

Dr. Qianqian Song, University of Florida



“Graph Artificial Intelligence for Multi-Modal Biomedical Data”

Thursday, November 6, 2025 • 2:00PM • HEC 101A • Zoom

Abstract:
Graph Artificial Intelligence (Graph AI) is reshaping biomedical research by providing a powerful framework to integrate, represent, and analyze complex, heterogeneous, and multi-modal datasets. Unlike traditional learning paradigms, graph-based models explicitly capture the relational and structural dependencies inherent to biological systems, enabling deeper insights into disease mechanisms, therapeutic discovery, and precision medicine. In this talk, I will present recent innovations in multi-modal graph learning, transfer learning across heterogeneous domains, and representation learning under noisy and incomplete data. Case studies will demonstrate applications in robust drug response prediction, graph-based denoising of noisy biomedical data, and inference from incomplete datasets. Collectively, these advances illustrate how Graph AI can address challenges in representation learning, domain adaptation, and robust inference, while driving forward the next generation of biomedical discovery.

Bio:
Dr. Qianqian Song is an Assistant Professor at the University of Florida. Her research focuses on machine learning and Graph AI, with an emphasis on algorithms for multi-modal data integration, graph representation learning, and transfer learning across heterogeneous domains. She has published in Nature Communications, Advanced Science, Nucleic Acids Research, and the Journal of Clinical Oncology. Her work emphasizes scalable graph algorithms, robust representation learning under noisy and incomplete data, and integrative modeling of high-dimensional multi-modal datasets. Through the development of computationally principled and adaptable models, Dr. Song seeks to advance graph-based learning and leverage its transformative potential to address the complexity of biomedical data science.