CHARACTERIZING QUANTUM STATES WITH NEURAL NETWORKS

Speaker: Yadong Wu
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Time: Fri, Dec. 12th, 14:30 - 15:15
Venue: Room 102, SCMS

Abstract:

Characterizing unknown quantum states is an essential challenge in quantum information. This talk will introduce an approach that utilizes deep representation learning to address this problem. I will propose a deep neural network model capable of generating concise classical representations of quantum states, which can be used to predict key quantum properties, including spin correlations, entanglement entropy and classification of quantum phases of matter. Furthermore, I will demonstrate how a transformer-based model can optimize the measurement selections on quantum states.