

Electrical and Computer Engineering Seminar

Nengkun Yu
Stony Brook University

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1:30 P.M. – 3:00 P.M.
MSEE 112

Zoom: <https://purdue-edu.zoom.us/j/98773268360>

Efficient Learning of Quantum State

Abstract

Testing the properties of unknown quantum states is fundamental to understanding quantum devices. For a general unknown state, an exponential number of copies is needed. In the low complexity region, we establish the connection between the state's complexity—i.e., the time required to generate this state—and the sample complexity of learning it. Furthermore, we show that one can learn nontrivial information from a single copy if the state has low complexity.

Bio

Nengkun Yu is a faculty member in the Computer Science Department at Stony Brook University. He obtained his degrees from Tsinghua University and completed a postdoctoral fellowship at the University of Waterloo. Before moving to the United States, he was a faculty member at the University of Technology Sydney in Australia. His research interests focus on quantum information science.