UNIVERSITY OF MIAMI
DEPARTMENT of
COMPUTER SCIENCE

University of Miami
The Department of Computer Science

Dr. Cunlu Zhou
will present

Titled

Some Recent Results on Quantum Phase Estimation and Quantum MaxCut

Friday, Feb 9th
9:30am Eastern Time
Location: Ungar Building, Conference Room, 330G (and Zoom)

Abstract

In this research talk, I will first briefly discuss my research interests and my vision of quantum computation. Next, I will dive into three research directions that I have been working on: near-term quantum computation, early fault-tolerant quantum computation, and quantum Hamiltonian complexity. I will give a detailed review of two of my recent projects: one on quantum phase estimation for early fault-tolerant quantum computers and the other on some new results regarding the so-called Quantum MaxCut problem. I will conclude my talk with several future research directions.

Bio

Dr. Zhou is currently an FRHTP Postdoctoral Fellow at the Center for Quantum Information and Control at the University of New Mexico. He completed his PhD in Mathematics in 2019 at the University of Notre Dame under the supervision of Prof. Roxana Smarandache and Prof. Leonid Faybusovich. Following his graduation, he undertook a postdoctoral position with Prof. Henry Yuen in the Department of Computer Science at the University of Toronto. His research interests lie at the interdisciplinary crossroads of mathematical optimization, quantum computing, and quantum many-body physics. They span a broad range of problems from fundamental theoretical questions in computational complexity to the development of efficient practical classical optimization algorithms, as well as near-term and early fault-tolerant quantum algorithms. He is especially interested in questions that explore the fundamental connections between mathematics, computer science, and physics.