Discrete Mathematics Seminar

Quantum Algorithms on Graphs

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Abstract: In this talk, I will provide a brief introduction to quantum computation and demonstrate its potential for accelerating classical graph algorithms. Specifically, I will present an asymptotically tight result for learning a Hamiltonian cycle using OR queries, as well as a significant polynomial improvement on the best-known quantum algorithm for $(\Delta+1)$ -coloring a graph with maximum degree Δ.

This work is based on joint research with Liam Hardiman (UCI) and Xiaonan Chen (UCI).

Thursday, November 7, 2024, 4:00 pm

Mathematics and Science Center: MSC W303

Mathematics
Emory University