

USC Dornsife

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Dr. Seth Lloyd

Professor at MIT and Co-Founder of Turing Quantum

Monday, August 29, 2022

4:00 p.m.

Location: SLH 200

Quantum systems can generate patterns in data that classical systems cannot generate. The field of quantum machine learning asks whether quantum information processors can find patterns in data that classical machine learning systems cannot find. The answer to this question is Yes. This talk reviews basic concepts in quantum machine learning, and shows how quantum computers can give potential speedups over classical computers for deep learning, kernel methods, regression and data analysis, financial analysis, and the topological analysis of data. We present approaches to answering the fundamental question facing quantum machine learning algorithms: How to process large amounts of classical data so that it can be loaded onto near-term quantum computers?