Quantum Computing Seminar Series

GEORGE MASON UNIVERSITY

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Over 2X Circuit Compression without Accuracy Loss for Quantum Machine Learning

Tuesday, October 11, 2022 | 12:30–1:30pm | 3301 Exploratory Hall | Zoom

Abstract

Model compression, such as pruning and quantization, has been widely applied to optimize neural networks on resource-limited classical devices. Recently, there are growing interest in variational quantum circuits (VQC), that is, a type of neural network on quantum computers (a.k.a., quantum neural networks). It is well known that the near-term quantum devices have high noise and limited resources (i.e., quantum bits, qubits); yet, how to compress quantum neural networks has not been thoroughly studied. One might think it is straightforward to apply the classical compression techniques to quantum scenarios. However, this paper reveals that there exist differences between the compression of quantum and classical neural networks.

Meeting Information: https://go.gmu.edu/qcseminar

About the Seminar Series

The Quantum Computing Seminar Series are a series of working seminars organized and hosted by QSEC's quantum computing subgroup on Mondays. These events are free and open to the public. More information is available on QSEC's Computing Events and Mathematical Sciences Department's Quantum Computing Seminars. For any questions, contact qsec@gmu.edu.