**Title: Quantum machine learning approach for classification: case studies and implications**

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**Abstract:** With the advent of quantum computing, which offers exponential computational speedup compared to classical computers, and the constantly expanding field of machine learning, which focuses on extracting patterns and insights from data. The paper comprises two comprehensive case studies: Network Traffic Analysis and Earthquake Magnitude Classification. We were able to perform an overview of previous studies in this field and acknowledge the research gap while building a Quantum Machine Learning model that provides accuracy over 60% while using 4 Qubits and keeping the loss around 20%.

**Key words:** Quantum computing Quantum machine learning (QML) Network traffic analysis Earthquake magnitude classification Qubits Machine learning

https://www.spiedigitallibrary.org/conference-proceedings-of-spie/12911/129110I/Quantum-machine-learning-approach-for-classification--case-studies-and/10.1117/12.3010006.full