

QUANTUM PERSPECTIVES: WITS & IBM SEMINAR SERIES

WHY MACHINE LEARNING MAY BE A GREAT APPLICATION FOR QUANTUM COMPUTERS AFTER ALL

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23 SEPTEMBER
13:15-14:15 SAST



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presentation room, Physics
building

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The discipline of Quantum Machine Learning has grown into a popular subfield of quantum computing in the past years, but finds itself at a crossroads. The claim that trainable quantum circuits will outperform neural networks is increasingly under scrutiny, and known speedups for learning tasks fail to translate into practical applications. Even worse, we don't seem any closer to understanding why quantum algorithms could potentially be useful for AI. In this talk I will give an overview of the status quo of Quantum Machine Learning, but also advocate for a change in perspective: I will motivate why the core of Shor's famous algorithm, an ultra-fast implementation of a Fourier Transform, could become a unique and useful ingredient that unlocks new ways of learning from data.