Mini-School

Basic programming for quantum machine learning with Qiskit and PennyLane

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In this series of lectures, we will build a simple quantum machine learning model and learn about each of its components through hands-on tutorials. (Basic Python programming and intermediate level concepts in quantum computing is required. In other words, one should be familiar with gate operations, measurements and circuit notation.)

08 September 2020, Lecture 1: Setting up a model: basic qubit rotation

15 September 2020, Lecture 2: Data encoding techniques: understanding state preparation

22 September 2020, Lecture 3: Training a variational model: optimization with gradient-based techniques

29 September 2020, Lecture 4: Encountering barren plateaus: the problem of vanishing gradient

Time: 14h00 – 15h00

Short bio: Amira is a predoc researcher in the Quantum Research Group at the University of KwaZulu-Natal and former research scientist at STANLIB Multi-Manager. She holds an undergraduate degree in actuarial science and an honours degree in quantitative finance from the University of Cape Town, in addition to a master's degree in physics and is pursuing her PhD at the University of KwaZulu-Natal. Amira is an active member of numerous community driven initiatives centered around strengthening science and technology in Africa. She is currently completing an internship with IBM Research Zurich, focused on understanding the statistical complexity of quantum neural networks.

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After registering, you will receive a confirmation email containing information about joining the webinar.