Contribution ID: **189**   Type: **Workshop**

IBM Hybrid Quantum-Classical Machine Learning

Monday, 4 December 2023 09:00 (1h 30m)

In this workshop we explore some of the available quantum algorithms designed for data analysis. Specifically, our focus will be in hybrid quantum machine learning, a paradigm integrating classical machine learning models with quantum algorithms. We will also examine techniques for integrating quantum models into pre-existing machine learning workflows, using transfer learning as an example. The hands-on aspect of the workshop will use the Qiskit SDK to implement tutorial examples, providing practical experience with quantum programming.

Agenda:
Introduction to Quantum Computing (45 minutes)
Introduction to Hybrid classical-Quantum machine learning
Overview of quantum algorithms for machine learning (45 minutes)
Introduce strategies for incorporating quantum machine learning algorithms into existing machine learning workflows (30 minutes)

Hands-On quantum programming (1 hr.)
Introduction to Qiskit (15 mins)
Building and running quantum circuits (15 mins)
Building Classical-Quantum models (30 mins)

The workshop targets researchers and students either with a machine learning, data science or data analysis background.

Student or Postdoc?

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Session Classification: Workshop 1

Track Classification: Quantum Computing