Quantum Machine Learning Workshop - B.Y.O.D. (Bring Your Own Data)

Invitation: Bring the data that of your interest to this one-day quantum machine learning (QML) workshop. Using Qiskit, we will work together to create a QML workflow to analyze your data. This workshop will consist of several coding sessions, including a brief introduction to Qiskit capabilities, along with short presentations of Cleveland Clinic and IBM researchers.

Registration link: https://airtable.com/appL8bm8sh0wEzwzn/pagUoOCii6OPMWPZd/form

Organizing committee: Hakan Doga (IBM), Aritra Bose (IBM), Bryan Raubenolt (CCF), Ruihao Li (CCF), Akhil Mohan (CCF), Filippo Utro (IBM), Laxmi Parida (IBM)

Date and Location: May 19th, LRI NA2-057

Capacity: 20-25 participants

B.Y.O.D: Optional guidelines for data preparation:

- A binary supervised classification task is preferred.
- Preferred maximum number of samples should be around < 500
- A mix of continuous, binary, and categorical variables can be supported.

Goal: Enable researchers to develop and apply QML workflows to their data for binary classification tasks with a hands-on experience. At the end of the workshop, the participants will be able to run a complete QML workflow on a quantum computer.

Time	Session	Type	Presenter
8:15 – 9 AM	System set-up assistance (optional)	Practical	-
9 – 9:30 AM	Welcome Remarks and Introduction	Q&A	Interactive
9:30 – 9:45 AM	Current State of Quantum Machine Learning (QML)	Lecture	Filippo Utro
9:45 – 10 AM	Qiskit recap and environment preparation	Practical	Hakan Doga
10 – 10:50 AM	QML benchmarking tool	Lecture	Bryan Raubenolt Akhil Mohan
10:50-11 AM	Coffee Break		
11 -11:20 AM	Data and Complexity measures	Lecture	Aritra Bose
11:20 – 11:40 AM	Quantum Kernel methods	Lecture	Hakan Doga
11:40 – 12 PM	QML applications with Qiskit in real data	Lecture	Hamed Javidi Gurinder Singh
12 – 1 PM	Lunch break		
1– 3 PM	Practical Session: Execute your data in the QML benchmarking tool	Practical	Interactive
3 – 3:15 PM	Coffee break		
3:15 – 4:15 PM	Reviewing results from the Practical Session	Practical	Interactive
4:15 – 4:45 PM	Interactive Q&A	Q&A	Interactive
4:45 – 5 PM	Future Directions & Concluding Remarks	Lecture	TBD