Week 1 Schedule & Topics

JULY 12
Monday

8:00 PM IST
Global Summer School Welcome & Kickoff

9:00 PM IST
Lecture 1.1: Vector Spaces, Tensor Products, and Qubits
Speaker: Elisa Bäumer

11:30 PM IST
Lecture 1.2: Introduction to Quantum Circuits
Speaker: Elisa Bäumer

JULY 13
Tuesday

5:30 PM IST
Lecture 2.1: Simple Quantum Algorithms I
Speaker: Elisa Bäumer

11:30 PM IST
Lecture 2.2: Simple Quantum Algorithms II
Speaker: Elisa Bäumer

JULY 14
Wednesday

5:30 PM IST
Lecture 3.1: Noise in Quantum Computers pt 1
Speaker: Zlatko Minev

9:00 PM IST
Lecture 3.1: Noise in Quantum Computers pt. 2
Speaker: Zlatko Minev

11:30 PM IST
Lab 1: Introduction to Quantum Computing Algorithms and Operations
Speaker: Elisa Bäumer

JULY 15
Thursday

5:30 PM IST
Lecture 4.1: Introduction to Classical Machine Learning
Speaker: Amira Abbas

11:30 PM IST
Lecture 4.2: Advanced Classical Machine Learning
Speaker: Amira Abbas

JULY 16
Friday

5:30 PM IST
Lecture 5.1: Building a Quantum Classifier
Speaker: Amira Abbas

9:00 PM IST
Lecture 5.2: Introduction to the Quantum Approximate Optimization Algorithm and Applications
Speaker: Johannes Weidenfeller

11:30 PM IST
Lab 2: Introduction to Variational Algorithms
Speaker: Johannes Weidenfeller

We appreciate your support in keeping this experience for registered attendees only, and welcome your feedback and suggestions for any improvement. Please do not share the lecture and lab materials outside the attendees of the Qiskit Global Summer School.

Week 2 Schedule & Topics

JULY 19
Monday

5:30 PM IST
Lecture 6.1: From Variational Classifiers to Linear Classifiers
Speaker: Bryce Fuller

11:30 PM IST
Lecture 6.2: Quantum Feature Spaces and Kernels
Speaker: Kristan Temme

JULY 20
Tuesday

5:30 PM IST
Lecture 7.1: Quantum Kernels in Practice
Speaker: Jen Glick

11:30 PM IST
Lab 3: Introduction to Quantum Kernels and Support Vector Machines
Speaker: Anna Phan

JULY 21
Wednesday

5:30 PM IST
Lecture 8.1: Introduction and Applications of Quantum Models
Speaker: Francesco Tacchino

9:00 PM IST
Lecture 8.2: Barren Plateaus, Trainability Issues, and How to Avoid Them
Speaker: Francesco Tacchino

11:30 PM IST
Lab 4: Introduction to Training Quantum Circuits
Speaker: Julien Gacon

JULY 22
Thursday

5:30 PM IST
Lecture 9.1: Introduction to Quantum Hardware
Speaker: Nate Earnest-Noble

9:00 PM IST
Lecture 9.2: Hardware Efficient Ansatze for Quantum Machine Learning
Speaker: Nate Earnest-Noble

11:30 PM IST
Lab 5: Introduction to Hardware Efficient Ansatze for Quantum Machine Learning
Speaker: Nate Earnest-Noble

JULY 23
Friday

5:30 PM IST
Lecture 10.1: Advanced QML Algorithms: Quantum Boltzmann Machines and Quantum Generative Adversarial Networks
Speaker: Christa Zoufal

9:00 PM IST
Lecture 10.2: The Capacity and Power of Quantum Machine Learning Models & the Future of Quantum Machine Learning
Speaker: Amira Abbas

11:30 PM IST
Qiskit Global Summer School Commencement & Celebration

Live Q&A

Following each lecture there will be a live Q&A session with the speakers on screen in Crowdcast. For questions not answered during the lecture live stream, they will be answered there.

Important Note: There are NOT Live Q&A sessions for Labs

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