

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 Ansatzes for Quantum Machine Learning

Speaker: Nate Earnest-Noble

11:30 PM IST

Lab 5: Introduction to Hardware Efficient Ansatzes 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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