QUANTUM AI & MACHINE LEARNING

Hands-On Quantum Machine Learning

QUANTUM TECHNOLOGY COURSE

Build and train quantum machine learning models in Python, run them on simulators and cloud hardware, and benchmark their results against tuned classical models on identical tasks.

DURATION	LEVEL	ON-DEMAND FEE
~8 hours	Advanced	US$699
Short professional course	Python and ML required	Online on-demand

Build the model. Test the comparison.

WHAT YOU WILL LEARN

- Build and train a variational quantum classifier.
- Implement quantum kernel methods and interpret their results.
- Benchmark quantum and tuned classical models on the same task.
- Assess QML research and vendor claims against meaningful evidence.

WHO SHOULD ATTEND

Machine learning engineers, data scientists, quantum software developers and researchers who want practical experience building, training and benchmarking quantum models.

PREREQUISITES

Working Python and basic ML required: training, validation and overfitting. No prior quantum experience needed.

Why Quantum Academy

The course draws on Quantum Systems Integration by Marin Ivezic and faculty experience working with quantum engineering and integration teams.

What you will study

Eight curriculum topics, with Python labs and prepared notebooks you keep.

01 Quantum computing for ML practitioners: qubits, gates, and circuits in one focused module

02 Data encoding strategies and their consequences

03 Variational quantum classifiers: architecture, training loops, and gradients

04 Quantum kernel methods and where they genuinely differ

05 Trainability problems: barren plateaus, noise, and expressibility trade-offs

06 Running on hardware: cloud platforms, shot budgets, and error awareness

07 The benchmarking lab: quantum versus tuned classical models on identical tasks

08 Reading QML research and vendor claims critically

Formats and fees

Online on-demand	US$699
Live online	US$1,049
In person	US$1,399
Private team training	Custom quote

Includes a certificate of completion. This is not a professional certification.

Completion does not confer a professional certification.

What is included

- Course handbook with instructor notes and prepared Python notebooks to keep.
- 180 days of online on-demand access. Where that course is not yet published, the 180 days start on the day it is.
- PDF copy of Quantum Systems Integration by Marin Ivezic, at no extra cost.

Explore the course

View course details at QuantumAcademy.com

On-demand enrollment opens soon. Check the course page for live dates and availability.

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