

One Day Hands-On Workshop on Quantum Algorithms to Quantum AI Using PennyLane and Bloqade (Hybrid Mode)

12th October 2026

Organized by
**School of Computer Science and
Engineering (SCOPE)**
Vellore Institute of Technology
Vellore – 632 014



Organizing Committee

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SCOPE

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Head - IoT
SCOPE

Coordinators:

Dr. Thanuja R, Associate Professor
Department of Database Systems
SCOPE

Dr. B. V. Baiju, Assistant Professor
Department of IoT
SCOPE

Contents of the Programme

- Introduction to Quantum Computing
- Quantum Algorithms & Quantum Circuits
- Foundational Mathematical Concepts
- Quantum Computing Frameworks: Qiskit, PennyLane & Bloqade
- Quantum Support Vector Machine (QSVM)
- Quantum Neural Networks (QNN)
- Quantum Convolutional Neural Networks (QCNN)
- Quantum Transfer Learning (QTL)
- Quantum Reservoir Computing (QRC)

Target Audience:

Faculty members, Research Scholars, UG and PG students

Registration:

The participants are requested to register for the workshop through the following link

<https://events.vit.ac.in/>

Registration fee (Including GST):

- External Participants : Rs. 350/-
- Internal Participants : Rs. 250/-

E-Certificate will be provided.

Last date for registration: 09.10.2026

About VIT

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence. Our Memoranda of Understanding with various international universities are our major strength.

About SCOPE

The school has one of the best infrastructure including domain-specific labs associated with the technical departments. The main aim is to produce computing graduates with potential, to design and develop systems involving the integration of software and hardware devices, employ innovative approaches in programming and problem solving, and create Large Scale Software Systems. With an objective of developing core competence in the subject matter specializations and special interest groups for learning newer technologies.

The school has formed the following technical departments:

- Department of Analytics
- Department of Computational Intelligence
- Department of Database Systems
- Department of Software Systems
- Department of Information Security
- Department of IoT
- Department of Quantum AI

About Workshop

Quantum computing is rapidly transforming the landscape of artificial intelligence and computational research. This hands-on workshop introduces participants to the journey from fundamental quantum algorithms to emerging Quantum AI and Quantum Machine Learning applications.

The workshop combines conceptual foundations with practical implementation using PennyLane and Bloqade, providing participants with an opportunity to explore quantum circuits, variational algorithms, quantum machine learning models, and neutral-atom quantum computing.

Participants will gain practical exposure to implementing quantum algorithms and exploring their applications in modern AI workflows.

Speakers

Mr. Karthiganesh Durai

Associate Director – Business Analyst
NTT Data, Inc,
Chennai.

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