Vinit Singh

Research Scientist at Meta with a background in scientific machine learning and quantum simulation.

Technical focus Machine learning systems, inference and training performance, and GPU kernel optimization across AMD and NVIDIA hardware. Tools include Python, C++, PyTorch, CUDA, and CuPy.

Connect on LinkedIn· https://www.linkedin.com/in/vinit-singh-quantum/

Selected achievements

2026 · npj Quantum Information · Co-first author

Quantum-assisted Monte Carlo

Co-developed the software and ran experiments using quantum sampling to train neural-network models of quantum states.

2025 · Journal of Physical Chemistry A · First author

Quantum state reconstruction from incomplete measurements

Developed a maximum-entropy method that uses restricted Boltzmann machines to reconstruct quantum states from limited measurements.

2025 · Los Alamos preprint · First author

Machine learning for global quantum gates

Designed circuits with gates that act on many qubits and tested them on ground-state preparation in simulations.

Experience

Current	**Research Scientist** Meta
2025–2026	**Doctoral research** North Carolina State University
May–Aug 2025	**Software Engineering Intern** Meta
Jun–Aug 2024	**Research intern** Los Alamos National Laboratory
2021–2024	**Doctoral research** Purdue University
May–Aug 2021	**Research intern** University of California, Berkeley

Education

North Carolina State University and Purdue University

Ph.D. studies focused on quantum computation and machine learning. Began at Purdue in August 2021 and transferred to NC State, continuing research with Sabre Kais.

Indian Institute of Technology Kharagpur

Integrated B.Sc. and M.Sc. in Physics, with a minor in Computer Science and Engineering · 2021

Master's thesis on simulating Fermi–Hubbard ground states with quantum and tensor-network algorithms.

Honors

Quantum Computing Summer School Fellowship

Los Alamos National Laboratory · 2024

Ross-Lynn Research Scholar Grant

Purdue University · 2023–2024

Ross Fellowship

Purdue University · 2021–2022