Nitin Jha

Curriculum Vitae

Kennesaw State University
South Marietta Pkwy, GA, USA
+1-470-546-6999
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ninjha252.github.io

Research Interests

1 Quantum Communication
2 Quantum Key Distribution
3 Quantum Augmented Networks

Education

2023-Current **Ph.D. Computer Science**, *Kennesaw State University*, Marietta, USA, *Working with Quantum Networks and Communication*
Current GPA: 3.92/4.00

2020-2023 **B.Sc. (Hons.)**, *Ashoka University*, Sonepat, India, *Major in Physics*
Graduated with latin honors:*Cum Laude*. GPA 3.69/4.00

Research Experience

2023-Current **Graduate Research Assistant**, *Kennesaw State University*, Marietta, USA, *Quantum networks and Communication*
Conducting theoretical and simulation-based studies for different aspects of Quantum networks and communication.

2022 **Research Assistant**, *Ashoka University*, Sonepat, India, *Simulating Micromagnetic Systems*
Using OOMMF (C++) or MuMax3 (GoLang) to simulate the behavior of permalloy in varying magnetic fields.

Publications

Journal

2024 Jha, N., Parakh, A., & Subramaniam, M. (2024). Joint encryption and error correction for secure quantum communication. Scientific Reports, 14(1), 24542.

2025 Jha, N., Parakh, A., & Subramaniam, M. (2025). "Multi-photon QKD for Practical Quantum Networks", Infocommunications Journal, Vol. XVII, No 2, June 2025, pp. 72-82., `https://doi.org/10.36244/ICJ.2025.2.9`

Conference

2025 Jha, N., Parakh, A., & Subramaniam, M. (2025, March). Towards a quantum-classical augmented network. In Quantum Computing, Communication, and Simulation V (Vol. 13391, pp. 72-86). SPIE.

2024 Jha, N., Parakh, A., & Subramanian, M. (2024, September). A ML Based Approach to Quantum Augmented HTTP Protocol. In 2024 IEEE International Conference on Quantum Computing and Engineering (QCE) (Vol. 2, pp. 591-592). IEEE. (**Poster**)

2024 Jha, N., Parakh, A., & Subramaniam, M. (2024, March). Effect of noise and topologies on multi-photon quantum protocols. In Quantum computing, communication, and simulation IV (Vol. 12911, pp. 148-161). SPIE.

PrePrint and In Review

2025 Jha, N., Parakh, A., & Subramaniam, M. (2025). An Improved Quantum Anonymous Notification Protocol for Quantum-Augmented Networks. **Research Square**. (In Review)

2025 Jha, N., & Parakh, A. (2025). Towards A Global Quantum Internet: A Review of Challenges Facing Aerial Quantum Networks. arXiv preprint arXiv:2505.23603. (In Review)

2025 Jha, N., Parakh, A., & Subramaniam, M. (2025). Security of Quantum Key Distribution from theory to implementation: Proofs, Attacks, and Error Correction Techniques. (In Review)

Skills

Technical Skills

Languages Python, MATLAB, LaTeX

Frameworks IBM Qiskit, Pennylane

Personal Skills

Languages English, Hindi

Services & Responsibilities

Reviewer **IEEE Transactions on Mobile Computing**

Reviewer **Scientific Reports**

Reviewer **IEEE Access**

Reviewer **Advanced Quantum Technologies (QUTE)**

Reviewer **ACM Transactions**