Shahrooz Pouryousef

+14134042650 • shahrooz@cs.umass.edu

Legal Status

- **U.S. Permanent Resident**

Research interests

Quantum networks, Distributed quantum computing, Quantum systems, Quantum machine learning.

Education

UMass Amherst **Aug. 2020 – Present**
Ph.D Candidate in Computer Science

UMass Amherst **Aug. 2017 – Aug. 2020**
Master Degree in Computer Science

Sharif University of Technology **Sep. 2013 – Aug. 2015**
Master Degree in Computer Engineering

Research Experience

Cisco Quantum lab **March. 2023 - September 2023**

- Formulating quantum network planning as an optimization problem
- Formal analysis and evaluation of different entanglement distribution protocols

ACQUIRE (Quantum networks research lab) **September. 2021 - Present**

- Design and evaluation of Quantum Storage Networks (QSNs).
- Design and evaluation of Quantum Virtual Private Networks (QVPNs).

Advanced Networked Systems Research lab **Aug. 2017 - Aug. 2021**

- Design and implementation of a logically centralized architecture for interdomain routing
- Implementation of a reinforcement learning system for traffic engineering in Intradomain routing for ISPs

Calipr research group **Aug. 2017 - Dec 2019**

- Developing an open source framework which conducts longitudinal Internet-scale measurements to identify when popular domains are victims of typosquatting

Publications

- Resource Placement for Rate and Fidelity Maximization in Quantum Networks
  - **Shahrooz Pouryousef**, Hassan Shapourian, Alireza Shabani, Ramana Kompella, and Don Towsley
  - IEEE Transactions on Quantum Engineering (2024)
- Analysis of Asynchronous Protocols for Entanglement Distribution in Quantum Networks
  - **Shahrooz Pouryousef**, Hassan Shapourian, and Don Towsley
  - International Conference on Quantum Communications, Networking, and Computing (QCNC 2024)
- Quantum Network Planning for Utility Maximization
  - **Shahrooz Pouryousef**, Hassan Shapourian, Alireza Shabani, and Don Towsley
  - 1st Workshop on Quantum Networks and Distributed Quantum Computing, pp. 13-18. 2023.
- A Quantum Overlay Network for Efficient Entanglement Distribution
  - **Shahrooz. Pouryousef**, Nitish K. Panigrahy , and Don Towsley
  - IEEE INFOCOM 2023.
- Scaling Limits of Quantum Repeater Networks
  - Mahdi Chehimi, **Shahrooz Pouryousef**, Nitish K Panigrahy, Don Towsley, Walid Saad
  - QCE 2023. Bellevue, Washington, USA (Sep 2023).

- Resource Management in Quantum Virtual Private Networks."
  - **Shahrooz. Pouryousef**, Nitish K. Panigrahy, Monimoy Deb Purkayastha, Sabyasachi Mukhopadhyay, Gert Grammel, Dominoko Di Mola, and Don Towsley.
  - QCE23 poster
- Towards Logically Centralized Interdomain Routing
  - **Shahrooz. Pouryousef**, Lixin Gao, and Arun Venkataramani
  - 17th USENIX Symposium on Networked Systems Design and Implementation (NSDI '20 Fall).
- Extortion or Expansion? An investigation into the costs and consequences of ICANN's gTLD experiments
  - **Shahrooz. Pouryousef**, Muhammad Daniyal Dar, Suleman Ahmad, Phillipa Gill, and Rishab Nithyanand
  - Passive and Active Measurement Conference, Measurement tools and Network security and privacy track, 2020.

Teaching Experience

- Instructor
  - First-year undergrad seminar on exploring modern computing. Fall. 2023
  - An introduction to computer programming (CICS 110). Fall 2024
- Teaching Assistant
  - CS453 Computer Networks course. UMass Amherst, Spring 2023
  - Computer Networks security. Sharif University of Technology Spring 2013
  - Wireless networks Sharif University of Technology Spring 2014

Outreach & Service

- Reviewer for IEEE Transactions on Networking (ToN) journal and ICC conference.
- CQN SLC industry officer: Organizing events to foster a sense of community in the center for quantum networks (CQN) 2023-2024
- CICS Graduate students representative 2022-2023
- A member of UMASS CICS social committee (for two semesters) 2019-2020
- A member of the graduate students committee that interviews faculty candidates that the department may hire (for three semesters) 2021-2022
- A member of PhD Applicants Support Program (PASP) committe that helps Ph.D. applicants from underrepresented minority groups to improve their PhD application materials 2021-2023