

Snehasis Addy

✉ saddy@umass.edu | 🏠 snehasisaddy.github.io | 🐙 github.com/snehasisaddy | 🔗 linkedin.com/in/snehasisaddy

Research Interests

Neuromorphic wearables for audio and health sensing, IoT, and Ubiquitous computing

Education

University of Massachusetts-Amherst

PhD in Computer Science

- **Supervisors:** Prof. Prashant Shenoy & Prof. VP Nguyen
- **Courses:** Performance Evaluation, Quantum Information Systems, Distributed and OS, Advanced Algorithms

Amherst, United States

Sept 2024 - Present

University of Calgary

MS in Physics- Thesis based

Calgary, Canada

Sept 2021 - Apr 2024

Indian Institute of Technology (ISM), Dhanbad

Bachelors of Technology in Electronics and Communication Engineering

Dhanbad, India

Sept 2017 - May 2021

Research Experience

Research Assistant in LASS

University of Massachusetts-Amherst

- Designing neuromorphic-based sensing systems to advance wearable health monitoring technologies.

Amherst, US

Aug 2025 - Present

Research Assistant in Quantum Systems Lab

University of Massachusetts-Amherst

- Developed a queueing-theoretic framework to model and analyze entanglement distribution from a single server to multiple clients using round-robin scheduling.

Amherst, US

Sept 2024 - Aug 2025

Research Assistant in QCloud lab

University of Calgary

- Developed the first decoder-free encoder using custom reliability sequences for arbitrarily long block lengths.

Calgary, Canada

Sept 2021 - Dec 2023

Publications

THESIS

[Polar codes for information reconciliation in QKD Quantum security for polarized channels](#)

Snehasis Addy

PAPER

[Flexible polar encoding for information reconciliation in QKD](#)

Snehasis Addy, Sabyasachi Dutta, Somnath Panja, Kunal Dey, Reihaneh Safavi-Naini, and Daniel Oblak

Skills

Programming	Python, Matlab and C/C++
Quantum Tools	Qiskit (IBM Certified Qiskit developer)
Technical Platforms	Algorithm design, Information theory and Coding theory, LaTeX, Microsoft Office, Git. HPC clusters of University of Calgary

Conferences and Workshops

Efficient polar encoding for information reconciliation in QKD

Poster

QCRYPT- 2023

College Park, United States

Aug 14-18, 2023

Efficient polar encoding for information reconciliation in QKD

Contributed Talk

Quanta CREATE Symposium- 2023

Edmonton, Canada

July 31- Aug 1, 2023

Improved Polar Code Encoder for Quantum Key Distribution

Poster

Quantum Days- 2023

Online

Jan 17-19, 2023

Error Correction in Quantum Key Distribution using Polar Codes

Poster

Quantum Alberta Summit- 2022

Calgary, Canada

Oct 11-13, 2022

Information Reconciliation in Quantum Key Distribution

Contributed Talk

Quanta CREATE Symposium

Edmonton, Canada

Aug 7-9, 2022

Error Correction in Quantum Key Distribution

Contributed Talk

University of Calgary Physics and Astronomy Symposium

Calgary, Canada

Feb 22, 2022

Error Correction in Quantum Key Distribution

Contributed Talk

Undergraduate Research in Science Conference of Alberta- 2021

Online

May 3-4, 2021

Awards and Achievements

2024	Scholarship , 2024 CICS Scholarship: \$5000	United States
2021-23	Award , International Graduate Tuition Award	Canada
2022-23	Award , University of Calgary PHAS Internal Award	Canada
2021	2nd Place , Undergraduate Research in Science Conference of Alberta (URSCA)	Canada
2020	Scholarship , MITACS Globalink Research Award: \$6000	Canada
2017	99.44 percentile , JEE (Mains) and JEE (Advanced)	India
2017	Certificate of Excellence , All India Senior School Certificate Examination	India
2017	99.9 percentile , Physics and Math in Senior Secondary Examination	India

Responsibilities

University of Massachusetts-Amherst

Teaching Assistant

Amherst, US

Sept 2024 - Present

- **Course:**CS 490Q- Quantum Information Science
- **Course:**CS 590AB/ 690 BB- Quantum Cryptography
- **Course:**CS 240- Reasoning under uncertainty

University of Calgary

Lead Teaching Assistant

Calgary, Canada

Sept 2022 - December 2022

- **Course:**PHYS 369- Acoustic, Optics and Radiation
- **Course:** PHYS 259- Electricity and Magnetism

University of Calgary

Research Intern

Calgary, Canada

May 2020 - July 2020

- **Project:** Error Correction in Quantum Key Distribution using LDPC codes.