

Tushin Mallick

Education

- Sept 2023 – Present **Ph.D. in Computer Science**, *Northeastern University*, Boston, MA
GPA 4.00/4.00
Advisor: *Dr. Cristina Nita-Rotaru*
- Feb 2017 – May 2022 **B.Sc. in Computer Science & Engineering**, *Bangladesh University of Engineering & Technology*, Dhaka, Bangladesh
GPA 3.70/4.00

Research Interests

Network Security, Distributed Systems, Post-Quantum Cryptography

Experience

- May 2025 – July 2025 **Research Intern**, *Cisco Systems*, San José, CA
○ Researching security challenges related to post-quantum algorithms.
- May 2024 – April 2025 **Graduate Research Assistant**, *NDS2 Lab, Northeastern University (Cybersecurity & Privacy Institute)*, Boston, MA
○ Investigating *fingerprinting of post-quantum algorithms* across libraries, protocols and SNARKs.
- June 2022 – June 2023 **Research Assistant**, *Bangladesh University of Engineering & Technology*, Dhaka, Bangladesh
○ **Malware App Identification using System Call Pattern**
 - Detection of malware applications by training deep learning models on sequential system call attributes.
 - Generated a random forest model that successfully classifies malware and benign applications.○ **Cloud-Fog Federation**
 - Researched federation between cloud and fog networks addressing authentication and application handover problems.

Teaching

- Sept 2023 – Apr 2024 **Graduate Teaching Assistant**, *Northeastern University*, Boston, MA
○ CS 6240 *Large-Scale Parallel Data Processing* (Spring 2024)
○ CS 3700 *Networks & Distributed Systems* (Fall 2023)

Publications

- 2025 E. Li, **T. Mallick**, E. Rose, W. Robertson, A. Oprea, C. Nita-Rotaru — “ACE: A Security Architecture for LLM-Integrated App Systems,” *Preprint*.
- 2024 **T. Mallick**, C. Nita-Rotaru, A. Kundu, R. Kompella — “[Fingerprinting Implementations of Cryptographic Primitives that Use Post-Quantum Algorithms](#),” *Preprint*.
- 2022 A. Ali, **T. Mallick**, S. Sakib — “[Provisioning Fog Services to 3GPP Subscribers](#),” *IEEE ICC 2022*.

2022 A. Ali, **T. Mallick**, M. Islam, M. S. Islam, S. Sakib — “3GPP Edge-Fog Federation: Transparent Third-Party Authentication & Application Mobility,” *Computer Communication* 2022.

Honours

2021–2022 Dean’s List (2 semesters), Bangladesh University of Engineering & Technology

Coursework

Formal Specification & Verification · Seminar in Computer Systems · Machine Learning
· Foundations of Distributed Systems · Information Visualization Theory

Skills

Languages Python, Java, C/C++, PHP, JavaScript, SQL, HTML/CSS

Frameworks TensorFlow, Pandas, NumPy, Scikit-learn

Formal Methods NuXmv, TLA⁺, Isabelle, Spin

Tools Linux, Git, Bash/Zsh, L^AT_EX, Microsoft Office