

Abdur Rashid Tushar

LECTURER · COMPUTER SCIENCE AND ENGINEERING

Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

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Research Interests

My research interests include system security; hardware security; cyber-physical systems security; forensic and malware analysis; the development and evaluation of open-source security tools; and advancing security solutions for complex, interconnected systems.

Education

Bangladesh University of Engineering and Technology (BUET)

Dhaka, Bangladesh

M.Sc. IN COMPUTER SCIENCE AND ENGINEERING

2022 -

- Thesis supervisor: Dr. Mohammad Sohel Rahman
- Collaborating with Dr. Mohammad Ashiqur Rahman, Florida International University, Florida, USA

Bangladesh University of Engineering and Technology (BUET)

Dhaka, Bangladesh

B.Sc. IN COMPUTER SCIENCE AND ENGINEERING

2017 - 2022

- CGPA: 3.92/4.00
- Ranked 5 out of 127 students
- Thesis supervisor: Dr. Mohammad Sohel Rahman
- Collaborated with Dr. Md Abul Hassan Samee, Baylor College of Medicine, Texas, USA

Professional Experience

Department of CSE, Bangladesh University of Engineering and Technology

Dhaka, Bangladesh

LECTURER

Nov 2022 - Present

- Delivered undergraduate courses:
 - Structured Programming Language (CSE 101 - Jul 2022): Pointers, logical bit operations, and data structures.
 - Data Structures and Algorithms II (CSE 207 - Jan 2023, Jul 2023): Advanced data structures and algorithm analysis.
 - Computer Architecture (CSE 209 - Jan 2024): Memory hierarchies, SIMD, and GPU architectures.
 - Computer Security Sessional (CSE 406 - Jan 2023, Jul 2023, Jan 2024): Cryptography, buffer overflow, malware, and security tools.
 - Computer Architecture Sessional (CSE 210 - Jan 2024): ALU implementation, floating point addition, MIPS Processor.
 - Computer Networks Sessional (CSE 322 - Jan 2024): Network design, Wireshark, socket programming, NS3.
 - Operating System Sessional (CSE 314 - Jan 2024): Shell scripting, system calls, threading, memory management.
 - Data Structure and Algorithm I Sessional (CSE 106 - Jan 2023): Stack, queue, heap, dynamic programming, greedy algorithms, divide and conquer, etc.
- Supervised student term projects in security and programming.
- Engaged in consultancy work focusing on systems security and database management.

BK IAC, CSE, BUET

Dhaka, Bangladesh

CONTRACTUAL INSTRUCTOR

Jan 2023 - Aug 2024

- Conducted courses on:
 - Business Analytics: Taught required Python programming for business analytics
 - Full Stack Web Development: Taught Node JS backend with REST APIs and deployment.
 - SQL Server Database Management: Taught database administration.

The Hassan Samee Lab at Baylor College of Medicine

Texas, USA

CONTRACTUAL FREELANCE PROGRAMMER

Nov 2022 - Feb 2023

- Developed bioinformatics pipelines using R.

Projects

Central College Application Website of Bangladesh

PROJECT MEMBER

- Collaborated with CSE, BUET faculty to enhance the security, performance, and reliability of the website.
- Conducted security and load testing, managed the database, and debugged system critical bugs.
- Technology stack: Kali Linux, ZAP, BurpSuite, Aceunetix, Nessus, Nmap, Jmeter, SSMS

Implementation of Image Processing Script

DEVELOPER

- Developed an image processing script for IEIMS software to process OMR sheets, using OpenCV in Python.
- Integrated with MS SQL Server database.
- Technology stack: Python, OpenCV, MS SQL Server.

Exploration and Implementation of Database Synchronization

DATABASE SYNCHRONIZATION SPECIALIST

- Investigated and implemented database synchronization techniques to optimize the education software system.
- Selected and deployed the best synchronization strategy for the deployment architecture.
- Technology stack: MS SQL Server Management Studio

Hacking Incident at RAJUK, Bangladesh

INVESTIGATION TEAM MEMBER

- Analyzed logs and system features to identify the root cause of the hacking incident.
- Replicated the incident in a controlled environment and provided security recommendations.
- Technology stack: Linux, Apache, forensic analysis tools.

Publications

Preprint:

Md. Redwanul Haque, **Abdur Rashid Tushar**, Minjun Park, Chang In Moon, M. Sohel Rahman, and Md. Abul Hassan Samee. "Epstein-Barr virus nuclear antigen proteins deploy diverse mechanisms to bind the human genome." *bioRxiv*, 2022. DOI: 10.1101/2022.07.18.500442. Available at: Full Paper.

Awards and Honors

- 2019 **2nd Runner Up, Inter University Artificial Intelligence Contest 2019**, CSE, BUET
- 2018 **Champion, Inter University Artificial Intelligence Contest 2018**, CSE, BUET
- 2017-2021 **University Merit Scholarship**, BUET
- 2017-2021 **University Deans Scholarship**, BUET

References

Dr. Mohammad Sohel Rahman

PROFESSOR, CSE, BUET, DHAKA, BANGLADESH

- msrahman@cse.buet.ac.bd

Dr. Md. Monirul Islam

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Dr. A. B. M. Alim Al Islam

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