Tanjim Bin Faruk

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GitHub | LinkedIn | Researchgate

EDUCATION

Colorado State University August 2022 - September 2024 (Expected)
Masters of Science in Computer Science
Department of Computer Science and Engineering CGPA: 4.00/4.00

Bangladesh University of Engineering and Technology February 2016 - February 2021
Bachelor of Science in Computer Science and Engineering
Department of Computer Science and Engineering CGPA: 3.63/4.00

PROFESSIONAL EXPERIENCES

Colorado State University, CO, USA | *Graduate Teaching Assistant* August, 2022 - Present

- Conducted help desk sessions, addressed student inquiries, provided support for the DeterLab testbed and evaluated lab assignments and exam scripts for the *Computer Networks And The Internet* and *System Security* courses

Chaldal, Dhaka, Bangladesh | *Software Engineer* February, 2021 - May, 2022

- Developed the entire backend of Chaldal Vegetable Network in F# as part of a two-person team, contributing to a 66% increase in order volume, an 81% growth in vegetables served, and a 113% boost in revenue
- Engineered an Operation Center Sorting Algorithm for Chaldal Vegetable Network, streamlining the entire perishable product flow inside a warehouse
- **Tech stack**: F#, C#, .NET, SQL Server

RESEARCH EXPERIENCE

Geospatial Encoder for High Dimensional Hyperspectral Satellite Images
Machine Learning, Big Data, Remote Sensing May 2024 - Ongoing

- Designed a geospatial encoder architecture and pre-trained with EnMAP hyperspectral satellite images for soil texture prediction downstream task

Analyzing the Cumulative Impact of Vulnerabilities in Assessing Risk
Machine Learning, Threat Modeling, CVE, MITRE ATTC&K January 2024 - May 2024

- Built a cybersecurity domain-specific language model for accurate risk assessment based on CVE, CWE, and other data sources

Scientific Claim Detection and Classification Using Large Language Models
Python, LLM, Scientific Claim, Misinformation, Twitter Dataset August 2023 - December 2023

- Evalued the effectiveness of Large Language Models like *ChatGPT* and *Llama 2* in identifying and classifying scientific claims in COVID-19 tweets using various prompt engineering techniques

Trust Based Access Control System
Java, React, Internet of Things May 2023 - August 2023

- Created an access control system prototype for Internet-of-Things (IoT) devices based on trust that eliminates the Cryptographic requirements

Rootkit Behavior Analysis and Detection Mechanism
Linux, VirtualBox, KVM Hypervisor May 2019 - February 2021

- Surveyed rootkit detection techniques and explored different detection mechanisms
- Published the work in the monthly magazine of Bangladesh Government's e-Government Computer Incident Response Team (BGD e-GOV CIRT).

TCP Reset Attack on Video Streaming Application
C, Python July 2019 - December 2019

- Employed the *pcap* API and raw socket programming to craft a TCP Reset packet, effectively terminating the video streaming connection between the server and the client
- Presented a student poster in 6th International Conference on Networking, Systems & Security

SCHOLARSHIPS

Certificate of Academic Excellence
For outstanding academic achievement in earning a 4.0 GPA during the 2023 Fall semester at CSU

Dean's List Scholarship, Bangladesh, 2018
For obtaining a CGPA of 3.75 or above in two regular Terms in an academic year

Technical Scholarship, Bangladesh, 2016 - 2020
Complimentary scholarship for regular engineering students

TECHNICAL SKILLS

Languages: F#, C#, Python, Java, C++
Database: SQL Server, MySQL, Oracle, MariaDB
OS: Windows, Ubuntu 20.04, MacOS
Version Control: Git (GitHub), TFS (Azure DevOps)
Frameworks: Spring Boot, PyTorch, React, Django, JavaFX
Web Technology: HTML, CSS, Rest API, JSON, XML
Data Analytics: Pandas, NumPy

ASSESSMENTS

GRE
Total: 329/340
Quantitative: 168/170, Verbal: 161/170, AWA: 4.5/6.0

TOEFL iBT
Total: 114/120
Reading: 30/30, Listening: 30/30, Speaking: 28/30, Writing: 26/30

HIGHLIGHTED ACADEMIC COURSES

Graduate Course, Colorado State University
CS 556: Computer Security
CS 545: Machine Learning
CS 535: Big Data
CS 533: Database Management Systems
CS 456: Modern Cyber-Security
CS 458: Blockchain Principles and Applications
Undergraduate Course, Bangladesh University of Engineering and Technology
CSE-423 Fault Tolerant Systems
CSE-463 High Performance Database System
CSE-471 Machine Learning
CSE-473 Pattern Recognition