Mohammad Ishtiaq Ashiq Khan

CS PhD Student at Virginia Tech

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Highlights

- Have advanced knowledge of OOP, algorithms, data structures, computer networks, network security, and relational DBMS.
- Demonstrated strong teamwork skills in collaborative research and multiple team projects.
- Developed effective communication skills by interacting with students at different levels of expertise while being employed as a university lecturer.
- Contributed to two open source projects in TextAttack and Mail-in-a-Box.

Work Experience

Graduate Research Assistant, Virginia Tech
Supervisor: Dr. Taejoong Chung
- Currently involved in research related to DNS and Email security

Lecturer at United International University, Dhaka, Bangladesh
Department of CSE
Jul '19 - Jan '21
- Taught Network Security, Artificial Intelligence Laboratory, Object Oriented Programming, etc.

Software Engineer at InfoSapex Limited, Dhaka, Bangladesh
Department of Design and Development
Nov '18 - Jul '19
- Developed and deployed a Procurement Management System (available here: proinfo.lged.gov.bd)

Educational Qualification

Virginia Tech, Blacksburg, Virginia, USA
Ph.D., Computer Science and Applications — *Jan '21 - Dec '25 (Expected)*
CGPA: 4.00/4.00 (Ongoing)

Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
Bachelor of Science, Computer Science and Engineering — *Jul '14 - Oct '18*
CGPA: 3.83/4.00

Research Interests

Network Security and Measurement, Data Analysis, Machine Learning

Publications

Measurement and Analysis of Automated Certificate Reissuance
Supervisor : Dr. Taejoong Chung — *May '20 - Nov '20*

Authors: Olamide Omolola, Richard Roberts, **Md. Ishtiaq Ashiq**, Taejoong Chung, Dave Levin, and Alan Mislove
- In Proceedings of the Passive and Active Measurement Conference (PAM), Virtual, Mar 2021

Domain Flux based DGA Botnet Detection Using Feedforward Neural Network
Supervisor : Dr. Md. Shohrab Hossain *Jan '18 - Jul '19*

Authors: **Md. Ishtiaq Ashiq**, Protick Bhowmick, Md. Shohrab Hossain, and Husnu S. Narman
- In IEEE Military Communications Conference (MILCOM), Norfolk, VA, USA, Nov 12-14, 2019

Projects

Automating DANE management
Supervisor: Dr. Taejoong Chung *Oct '20 - Present*

- Contributed to an open source project to automate DANE configuration updates after key rollover [Link]
- Submitted in USENIX Security 2022

A Study on Adversarial Training: Is adversarial training transferable in the text domain?
Supervisor : Dr. Bimal Viswanath *Mar '21 - Apr '21*

- GitHub Link, Framework: PyTorch
- Fixed a bug on the reference open-source framework [Link]

Experimenting with Web Honeypots: How robust is SNARE-TANNER?
Supervisor : Dr. Angelos Stavrou *Mar '21 - Apr '21*

- Devised and demonstrated vulnerabilities for attackers to bypass detection in SNARE-TANNER framework, details here.

Course Projects

- Implemented multi-programming, demand paging, and priority scheduling to emulate a multi-threading CPU in Operating Systems course.
- Implemented 5 stages of compiler design to build a basic compiler for the C language in Compiler course.
- Implemented several learning algorithms such as AdaBoost, EM clustering, ALS based recommendation, template matching in images, etc. as part of Machine Learning and Pattern Recognition course.

Skills

Languages: Python, Java, C++, C, LaTeX, JavaScript, Assembly (x86)
Framework: Django Rest, Tensorflow, PySpark, PyTorch
Database Management System: SQL, PostgreSQL
Other: HTML, CSS, Bootstrap, jQuery, familiar with Android, Redis, NodeJS, Apache

Awards & Achievements

Awarded **University Merit List Scholarship** for academic performance at BUET

Awarded **Dean's List Scholarship** for academic performance at BUET

Awarded **Dhaka Board SSC & HSC Scholarship** in 2011 & 2013 respectively