

# Mohammad Ishtiaq Ashiq Khan

CS PhD STUDENT AT VIRGINIA TECH

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[GitHub](#), [LinkedIn](#), [Google Scholar](#)

Website: <https://ashiq5.github.io/>

## WORK

### EXPERIENCE

#### Summer Instructor, Virginia Tech

*Department of Computer Science*

*May '23 - Jun '23*

- Taught Intermediate Software Design Course in Summer 2023 (Term I)

#### Graduate Research Assistant, Virginia Tech

*Supervisor: Dr. Taejoong Chung*

*Jan '21 - May '23*

- Curating experiments, designing APIs, and analyzing big data to identify flaws and mismanagements in protocols involving DNS and Email security
- Stack: PySpark, MongoDB, PostgreSQL, Node.js, Docker, Django Rest, Redis, AWS, etc.

#### Lecturer at United International University, Dhaka, Bangladesh

*Department of CSE*

*Jul '19 - Jan '21*

- Taught Network Security, Artificial Intelligence Laboratory, Object Oriented Programming, etc.
- Supervised student projects

#### Full Stack Software Engineer at InfoSapex Limited, Dhaka, Bangladesh

*Department of Design and Development*

*Nov '18 - Jul '19*

- Successfully released a Procurement Management System in production contributing more than 50% to its development.
- Served as a technical point of contact with clients and carried out requirement analysis.
- Significantly reduced server provisioning time by automating configurations with Puppet and recovery time by setting up monitoring service with Munin and Nagios.
- Stack: Django Rest, Node.js, jQuery, HTML, CSS, Bootstrap, PostgreSQL, Celery

## EDUCATIONAL QUALIFICATION

**Virginia Tech**, Blacksburg, Virginia, USA

*Ph.D., Computer Science and Applications*

**CGPA: 3.85/4.00 (Ongoing)**

*Jan '21 - Dec '25 (Expected)*

**Bangladesh University of Engineering and Technology (BUET)**, Dhaka, Bangladesh

*Bachelor of Science, Computer Science and Engineering*

**CGPA: 3.83/4.00**

*Jul '14 - Oct '18*

## RESEARCH INTERESTS

Network Security and Measurement, Data Analysis

## PUBLICATIONS

### You've Got Report: Measurement and Security Implications of DMARC Reporting

*Supervisor : Dr. Taejoong Chung*

*Authors: Md. Ishtiaq Ashiq, Weitong Li, Tobias Fiebig, and Taejoong Chung*

- Accepted in Proceedings of the USENIX Security Symposium 2023, Anaheim, CA, USA

### Measuring TTL Violation of DNS Resolvers in the Wild

*Supervisor : Dr. Taejoong Chung*

*Authors: Protick Bhowmick, Md. Ishtiaq Ashiq, Casey Deccio, and Taejoong Chung*

- In Proceedings of the Passive and Active Measurement Conference (PAM '23)

## Under the Hood of DANE Mismanagement in SMTP

*Supervisor : Dr. Taejoong Chung*

*Authors:* Hyeonmin Lee, **Md. Ishtiaq Ashiq**, Moritz Mller, Roland van Rijswijk-Deij, Taekyoung Ted Kwon, Taejoong Chung

- In Proceedings of the USENIX Security Symposium 2022, Boston, MA, USA

## Measurement and Analysis of Automated Certificate Reissuance

*Supervisor : Dr. Taejoong Chung*

*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*

*Authors:* **Md. Ishtiaq Ashiq**, Protick Bhowmick, Md. Shohrab Hossain, and Husnu S. Narman

- In IEEE Military Communications Conference (MILCOM), Norfolk, VA, USA, 2019

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## PROJECTS

### Understanding DNSSEC debugging patterns using DNSViz

*Supervisor: Dr. Taejoong Chung*

*Jan '21 - Dec '21*

- Analyzed historic DNSViz data to understand the most challenging things for DNS administrators to deploy and manage DNSSEC

- Presented in **36th DNS-OARC Workshop**

### A Study on Adversarial Training: Is adversarial training transferable in the text domain?

*Supervisor : Dr. Bimal Viswanath*

*Mar '21 - Apr '21*

- Conducted an experiment to check AT transferability across adversarial frameworks [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](#).

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## SKILLS

**Languages** Python, Java, C++, C, L<sup>A</sup>T<sub>E</sub>X, JavaScript, Assembly (x86), familiar with R and Go

**Frameworks** Django Rest, Tensorflow, PySpark, PyTorch, Node.js, familiar with Android

**DBMS** SQL, PostgreSQL, MongoDB

**Tools** Docker, Munin, Nagios, Vagrant, Hugo etc.

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## AWARDS & ACHIEVEMENTS

- Awarded **University Merit List Scholarship**, and **Dean's List Scholarship** for academic performance at BUET.
- Contributed to three open-source projects: [Mail-in-a-Box](#), [iRedAPD](#), [TextAttack](#).