

Mohammad Ishtiaq Ashiq Khan

☎ (540) 449-8267 @ iashiq5@vt.edu 📍 Blacksburg, VA 🏠 [Homepage](#) [in LinkedIn](#) [GitHub](#)

Experience

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|------------------------------------|----------------------|---------------------------|
| Graduate Research Assistant | Virginia Tech | Jan 2021 - Present |
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- Conducted research on network security and measurement with an emphasis on **Email, DNS, and PKI**.
 - Selected Publications:**
 - You've Got Report: Measurement and Security Implications of DMARC Reporting* in **USENIX Security 2023**. Authors: **Md. Ishtiaq Ashiq**, Weitong Li, Tobias Fiebig, and Taejoong Chung.
 - Analyzed the DMARC Reporting landscape longitudinally and empirically. Proposed a couple of DoS vulnerabilities in 3 major email providers with amplification factor over 1400x leveraging DMARC and TLS-RPT reporting.
 - Measuring TTL Violation of DNS Resolvers in the Wild* in **PAM 2023**. Authors: Protick Bhowmick, **Md. Ishtiaq Ashiq**, Casey Deccio, and Taejoong Chung.
 - Designed APIs for dynamic resolution of DNS queries for the measurement infrastructure using Docker and DRF.
 - Under the Hood of DANE Mismanagement in SMTP* in **USENIX Security 2022**. Authors: Hyeonmin Lee, **Md. Ishtiaq Ashiq**, Moritz Muller, Roland van Rijswijk-Deij, Taekyoung Kwon, and Taejoong Chung.
 - Implemented an automated DANE configuration update scheme after key rollover in a popular email provider.
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| Lecturer | United International University | Jul 2019 - Dec 2020 |
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- Taught Network Security, Data Structure, Object-Oriented Programming, etc. undergraduate courses.
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| Full Stack Software Engineer | InfoSapex Limited | Nov 2018 - Jul 2019 |
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- Successfully released a Procurement Management System in production with over 50% contribution.
 - 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.
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| Software Engineer Intern | Dingi Technologies Limited | Mar 2018 - Aug 2018 |
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- Developed an interactive website for addressing feedbacks from users of Dingi's native mobile application.

Education

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| Blacksburg, VA | Jan 2021 - Dec 2025 (Expected) |
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- Ph.D. in Computer Science and Applications at **Virginia Tech**
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| Dhaka, Bangladesh | Jul 2014 - Oct 2018 |
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- B.Sc. in Computer Science at **Bangladesh University of Engineering and Technology (BUET)**, CGPA: 3.83.

Languages and Technologies

Languages Python, Java, C++, C, JavaScript, HTML, CSS, Assembly (x86), familiar with R and Go
Frameworks and Technologies Django Rest, Tensorflow, Apache Spark, PyTorch, Node.js, Celery, Redis, AWS
DBMS Oracle SQL, PostgreSQL, MongoDB

Selected Projects

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- Revisiting the NXNS Attack** (2022). Developed a scalable technique to measure patches for the attack in local resolvers leveraging a proxy network, [\[details\]](#).
 - Transferability of Adversarial Training in Text Domain** (2021). Conducted a study to check transferability of adversarial training across popular adversarial frameworks. Framework: PyTorch, [\[Link\]](#).
 - DNSSEC Debugger** (2021). Analyzed historical DNSViz data to understand the challenges for DNS administrators while deploying and managing DNSSEC. Presented in **36th DNS-OARC Workshop**, [\[Link\]](#).

Additional Experience and Awards

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- Instructor, Virginia Tech:** Taught Intermediate Software Design course during Summer 2023.
 - Open Source Contributions:** Contributed to 3 open-source projects: [Mail-in-a-Box](#), [iRedAPD](#), and [TextAttack](#).
 - Awarded *University Merit List Scholarship*, and *Dean's List Scholarship* during bachelor's.