Mohammad Ishtiaq Ashiq Khan

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Education

Blacksburg, VA **Virginia Tech** **Jan 2021 - Dec 2025 (Expected)**

- Ph.D. in Computer Science and Applications

Dhaka, Bangladesh **BUET** **Jul 2014 - Oct 2018**

- B.Sc. in Computer Science at **Bangladesh University of Engineering and Technology**, CGPA: 3.83

Experience

Software Engineer Intern **Meta Platforms, Inc.** **May 2025 - Aug 2025**

- Deprioritize heavy network calls and CPU-intensive jobs from the critical path of Meta's In-app Browser

Graduate Research Assistant **Virginia Tech** **Jan 2021 - Present**

- Conduct data-driven research aimed at enhancing management and security of **Email**, **DNS**, and **PKI**.
- **Selected Publications**:
  - *Unraveling the Complexities of MTA-STS Deployment and Management in Securing Email* in **Internet Measurement Conference** 2025. *Authors:* **Md. Ishtiaq Ashiq**, Tobias Fiebig, and Taejoong Chung.
    - Conducted a comprehensive and longitudinal analysis of the MTA-STS protocol in email transport security ecosystem. Identified 20K misconfigured domains with 3.2% of these prone to potential email delivery failure.
  - *SPF Beyond the Standard: Management and Operational Challenges in Practice and Practical Recommendations* in **USENIX Security** 2024. Authors: **Md. Ishtiaq Ashiq**, Weitong Li, Tobias Fiebig, and Taejoong Chung.
    - Conducted a comprehensive study of the SPF protocol in email authentication landscape, exploring the reasons behind prevalent misconfigurations and unveiled potential attack vectors that can impede valid email reception.
  - *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 in email authentication 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.

Software Engineer Intern **Meta Platforms, Inc.** **May 2024 - Aug 2024**

- Developed a custom plugin for FB4A's in-app browser (Chromium) to aid in browser development and debugging

Full Stack Software Engineer **InfoSapex Limited** **Nov 2018 - Jul 2019**

- Successfully released a Procurement Management System in production with over 50% dev. contribution.
- Served as a technical point of contact with clients and carried out requirement analysis.

Languages and Technologies

Languages Python, Java, C++, C, JavaScript, HTML, CSS, Assembly (x86), familiar with R, Go, Kotlin, TypeScript
Frameworks and Technologies Django Rest, Tensorflow, PySpark, PyTorch, Node.js, Flask, React, Android
DBMS Oracle SQL, PostgreSQL, MongoDB, Redis, Elasticsearch
Tools Docker, Vagrant, Hugo, Gulp, Buck, Celery, Grafana, AWS Services (S3, EC2), Gunicorn, Perfetto etc.

Selected Projects

- **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

- **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.