

N M Istiak Chowdhury

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Objective

I am a dedicated computer scientist with a strong research background in cybersecurity of autonomous vehicles, wireless communication, and IoT. I am seeking to apply my research skills in a dynamic environment focused on cutting-edge advancements in cybersecurity, cloud computing, and communication.

Education

- PhD Candidate | Blazer Graduate Research Assistant, Computer Science
University of Alabama at Birmingham (UAB), AL | 2022 – Present | GPA: 3.87/4.00
- M.S. in Engineering (Computer Science & Engineering)
University of Chittagong, Bangladesh | 2016 | GPA: 3.72/4.00
- B.S. in Computer Science & Engineering
University of Chittagong, Bangladesh | 2012 | GPA: 3.71/4.00

Projects:

1. Multi-week Project on AWS, Cloud Computing Course
 - Created a web-based file-sharing tool with support for sharing with multiple users. Used an AWS EC2 instance to host a web server for the project, AWS S3 to store the file, AWS Lambda and AWS SNS to send emails, and AWS RDS to store file information.
2. Course ending Project, Deep Learning Course
 - Focused on applying the methods, Linear classifiers, K-nearest Neighbors (KNN), and Convolutional Neural Networks (CNNs), to image classification using the FashionMNIST dataset as a benchmark.
3. Course ending Project, Data Mining Course
 - Proposed and tested a voting-based approach for predicting thyroid cancer risk in this project. The classifier ensemble produced promising outcomes in terms of accuracy, precision, recall, F1-score, and support.
4. Course ending Project, Foundations of Data Science Course
 - Analyzed a Diabetes dataset, visualized the data, implemented multiple ML algorithms, and constructed a simplified count-min sketch.

Professional Experience

1. Assistant Professor
University of Chittagong, Bangladesh | Mar 2022 – Aug 2022
 - Conducted research and taught undergraduate courses in computer science and engineering.
 - Mentored student projects in IoT and ML-based systems.

2. Lecturer

University of Chittagong, Bangladesh | May 2019 – Mar 2022

- Developed and delivered lectures on core computer science subjects.

3. Lecturer

Comilla University, Bangladesh | Mar 2017 – May 2019

- Focused on research in vehicular ad-hoc networks and IoT.
- Led student research projects in data warehousing and secure web applications.

Key Skills

- AWS: Amazon EC2, S3, AWS Lambda, RDS, SNS, and IAM
- Programming: C, C++, Java, Python, SQL, HTML, CSS, JavaScript, PHP
- Network Systems: Cisco Switches/Routers

Selected Publications & Book Chapters

1. "How Trustworthy are Over-The-Air (OTA) Updates for Autonomous Vehicles (AV) to Ensure Public Safety?: A Threat Model-based Security Analysis" (IEEE WFPST 2024)
2. "Security Analysis of Connected Autonomous Vehicles (CAVs): Challenges, Issues, Defenses, and Open Problems" (IEEE WFPST 2024)
3. "How Secure is AI-based Coding?: A Security Analysis Using STRIDE and Data Flow Diagrams" (IEEE VCC 2023)
4. "Security Analysis of Cardiovascular Implantable Electronic Devices" (IEEE SouthEastCon 2023)
5. "An Overview of Cyber Attacks and Defenses on Intelligent Connected Vehicles". Chapter 93 - Computer and Information Security Handbook - Elsevier (Fourth Edition, Volume II)
6. "Exploiting Transfer Learning Ensemble for Visual Sentiment Analysis in Social Media". Data Engineering and Communications Technologies book series - Springer (LNDECT, Volume 62).

Awards & Honors

- Blazer Graduate Research Fellowship, UAB | 2022 – 2023
- IEEE SecDev 2022 Student Travel Grant | 2022
- GSG Professional Development Award, UAB | 2023 | 2024
- Bryant Endowed Travel Award, CS | UAB | 2023 | 2024
- First Place, Graduate Ethics Competition, IEEE SouthEastCon | 2023

Certifications

- Cisco Certified Network Associate (CCNA), Premier University - Cisco Local Academy, Chittagong, Bangladesh | 2013

Web Links

1. Google Scholar:

<https://scholar.google.com/citations?hl=en&authuser=1&pli=1&user=DDUh6lIAAAAJ>

2. LinkedIn:

<https://www.linkedin.com/in/n-m-istiak-chowdhury-54618b39/>