N. M. ISTIAK CHOWDHURY

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I aim to be a better researcher as a computer scientist, and I would like to collaborate across multiple disciplines of computer science to contribute to the world, adapting to present and future needs. Being confident, I want to take on the challenges of a research-based career where I can employ my creativity and conceptual abilities effectively.

Awards & Fellowships

Aug 2022 – Dec 2023	**Blazer Graduate Research Fellowship** Doctorate program, Department of Computer Science The University of Alabama at Birmingham (UAB), AL.
Oct 2022	**IEEE SecDev 2022 Student Travel Grant Award** IEEE SecDev 2022 Organizing Committee IEEE SecDev 2022, Atlanta, GA.
Feb 2023 – Jun 2023	**GSG Spring/Summer 2023 Professional Development and Travel Award** UAB Graduate Student Government The University of Alabama at Birmingham, AL.
Mar 2023 – Jun 2023	**Bryant Endowed Travel Award** Department of Computer Science The University of Alabama at Birmingham, AL.
Apr 2023	**First Place** Graduate Ethics Competition, Students' Program IEEE SouthEastCon 2023, Orlando, FL.
May 2024 – Jun 2024	**Bryant Endowed Travel Award** Department of Computer Science The University of Alabama at Birmingham, AL.
May 2024 – Jun 2024	**Student Travel Grant** 2024 IEEE World Forum on Public Safety Technology Washington, DC.
Oct 2024	**Student Attendee, Student Program** 2024 NSF Cybersecurity Summit Pittsburgh, PA.
Sep 2024 – Dec 2024	**GSG FALL/SPRING 2024 Professional Development and Travel Award** UAB Graduate Student Government The University of Alabama at Birmingham, AL.

Educational Qualifications

- **2022 - Till date**   **Blazer Graduate Research Fellow**, Doctorate program,
  Department of Computer Science
  The University of Alabama at Birmingham, AL.
- **2013 - 2016**   **Master of Science in Engineering**
  Department of Computer Science & Engineering
  University of Chittagong, Chittagong, Bangladesh.
  Result: 3.72 (On the scale of 4.00). Highest CGPA scored
  Passing Year: 2016
- **2006 - 2012**   **Bachelor of Science with Honors**
  Department of Computer Science & Engineering
  University of Chittagong, Chittagong, Bangladesh.
  Result: 3.71 (On the scale of 4.00)
  Passing Year: 2012

Employment History

- **Mar 2022- Aug 2022**   **Assistant Professor**
  Department of Computer Science & Engineering
  University of Chittagong, Chittagong, Bangladesh.
- **May 2019- Mar 2022**   **Lecturer**
  Department of Computer Science & Engineering
  University of Chittagong, Chittagong, Bangladesh.
- **Mar 2017- May 2019**   **Lecturer**
  Department of Information & Communication Technology
  Comilla University, Comilla, Bangladesh.
- **Jan 2014 - Mar 2017**   **Lecturer, Department of Computer Science & Engineering**
  Southern University Bangladesh, Chittagong, Bangladesh.

Professional Certification

- **Oct 2011 – Apr 2013**   **Cisco Certified Network Associate (CCNA)**
  Premier University - Cisco Local Academy, Chittagong, Bangladesh.

Fields of Research Interests

1. Autonomous Vehicles
2. Cybersecurity
3. Cloud Security
4. Smart City
5. Smart Home
6. Internet of Things (IoT)
7. Machine Learning

Conference Presentation

1. **21 Nov 2015**   **Presented Paper:** Monitoring and Logging Environmental Parameters Remotely Using Wireless Sensor Network
   Conference: International Conference on Sustainable Development (ICSD'15)
   Venue: Radisson Blu Chittagong Bay View, Chittagong, Bangladesh.

2. **15 May 2024**   **Presented Paper:** How Trustworthy are Over-The-Air (OTA) Updates for Autonomous Vehicles (AV) to Ensure Public Safety?: A Threat Model-based Security Analysis
   Conference: 2024 IEEE World Forum on Public Safety Technology (WFPST)
   Venue: Hyatt Regency Dulles, VA.

3. **15 May 2024**   **Presented Paper:** Security Analysis of Connected Autonomous Vehicles (CAVs): Challenges, Issues, Defenses, and Open Problems
   Conference: 2024 IEEE World Forum on Public Safety Technology (WFPST)
   Venue: Hyatt Regency Dulles, VA.

List of Research Works

Undergraduate Projects:
1. Distributor Management System. Based on Visual Basic and Microsoft SQL Server
2. Mass Transportation & Traffic Model. Based on Visual Basic and Microsoft SQL Server

M. S. Thesis:
   An Efficient Algorithm for Rapid DNA Sequence Alignment

Publications

1. **N. M. Istiak Chowdhury**, Ragib Hasan. "How Trustworthy are Over-The-Air (OTA) Updates for Autonomous Vehicles (AV) to Ensure Public Safety?: A Threat Model-based Security Analysis". Proceedings of 2024 IEEE World Forum on Public Safety Technology (WFPST).

2. **N. M. Istiak Chowdhury**, Ragib Hasan. "Security Analysis of Connected Autonomous Vehicles (CAVs): Challenges, Issues, Defenses, and Open Problems". Proceedings of 2024 IEEE World Forum on Public Safety Technology (WFPST).

3. Md Ismail Hossain, **N. M. Istiak Chowdhury**, Ragib Hasan. "How Secure is AI-based Coding?: A Security Analysis Using STRIDE and Data Flow Diagrams". Proceedings of 2023 IEEE Virtual Conference on Communications (VCC).

4. **N. M. Istiak Chowdhury**, Ragib Hasan. "Security Analysis of Cardiovascular Implantable Electronic Device (CIED) using a Threat Model-based Approach". Proceedings of IEEE SouthEastCon 2023.

5. Etu Chowdhury, Abu Nowshed Chy, **N. M. Istiak Chowdhury**. "Exploiting Transfer Learning Ensemble for Visual Sentiment Analysis in Social Media". Proceedings of International Conference on Computational Intelligence, Data Science and Cloud Computing IEM-ICDC 2020.

6. Abdul Moktadir, **N. M. Istiak Chowdhury**. "Subject Oriented Data Partitioning – A Proposed Data Warehousing Schema". Proceedings of 1st International Conference on Advances in Science, Engineering and Robotics Technology - 2019 (ICASERT'19).

7. Orvila Sarker, Mehedi Hasan, **N. M. Istiak Chowdhury**. "A Secure Web Server for E-Banking". Proceedings of 21st International Conference of Computer and Information Technology (ICCIT) - 2018.

8. Madhav Kahar Goud, **N. M. Istiak Chowdhury**, Md. Faqhrul Islam Nahiyan. "Performance Evaluation of Proactive, Reactive and Hybrid Protocols by Varying Vehicle Nodes in Vehicular Ad-hoc Network". International Journal of Computer Sciences and Engineering Vol.-6, Issue-11, Nov 2018.

9. Ibrahim Biplob, Aseef Iqbal, **N. M. Istiak Chowdhury**. "Monitoring and Logging Environmental Parameters Remotely Using Wireless Sensor Network". Proceedings of International Conference on Sustainable Development (ICSD) 2015.

Supervised Project/Thesis

1. Utilizing Deep Convolution Neural Network for extracting Urban Environment Component by using Satellite Image Segmentation
2. Predicting heart failure of patients using Machine Learning
3. Handwritten text prediction using CNN
4. Exploiting Transfer Learning Ensemble for Visual Sentiment Analysis in Social Media - Published
5. IoT-based Water Quality Monitoring System
6. Customer Counter with Face Recognition System for Local Shop
7. Subject Oriented Data Partitioning – A Proposed Data Warehousing Schema - Published
8. A Secure Web Server for E-Banking - Published
9. Performance Evaluation of Proactive, Reactive and Hybrid Protocols by Varying Vehicle Nodes in Vehicular Ad-hoc Network - Published
10. Monitoring and Logging Environmental Parameters Remotely Using Wireless Sensor Network - Published
11. E-Ticketing System
12. Automatic Liquid Vending Machine
13. Automatic Cell Phone Detector
14. Blood Donor Finder Mobile Application (Android App)

Book Chapter

1. Etu Chowdhury, Abu Nowshed Chy, and **N. M. Istiak Chowdhury**. **"**Exploiting Transfer Learning Ensemble for Visual Sentiment Analysis in Social Media". Proceedings of International Conference on Computational Intelligence, Data Science and Cloud Computing, pp 29–41. Part of the Lecture Notes on Data Engineering and Communications Technologies book series - Springer (LNDECT, Volume 62).
ISBN 978-981-33-4967-4, ISBN 978-981-33-4968-1 (eBook)
https://doi.org/10.1007/978-981-33-4968-1
https://link.springer.com/chapter/10.1007/978-981-33-4968-1_3

2. **N. M. Istiak Chowdhury**, Mohammad Aminul Hoque, and Ragib Hasan. "An Overview of Cyber Attacks and Defenses on Intelligent Connected Vehicles". Chapter 93 - Computer and Information Security Handbook - Elsevier (Fourth Edition, Volume II), pp 1481-1494. ISBN 978-0-443-13223-0

   https://doi.org/10.1016/B978-0-443-13223-0.00093-X

   https://www.sciencedirect.com/science/article/pii/B978044313223000093X

Web Links

1. **Google Scholar Link**

   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/

3. **ResearchGate:**

   https://www.researchgate.net/profile/N-M-Istiak-Chowdhury

4. **University of Chittagong Web Portal**

   https://cu.ac.bd/public_profile/index.php?ein=5906

Skills

1. Programming Languages: C, C++, Java, Python, SQL, HTML, CSS, JavaScript, PHP
2. AWS Cloud: Amazon EC2, S3, AWS Lambda, RDS, SNS, and IAM
3. Microsoft Office/ Office 365
4. Cisco Switches/Router

Languages

1. **English**
   Good Working Knowledge
2. **Bangla**
   Native Speaker

Hobby & Interest

1. Collecting Postal Stamps, Coins, and Old Photographs
2. Reading Detective Novels, Traveling, Watching Movies, Listening to Songs
3. Learning different languages & cultures

Volunteer works

Jul 2024 - Present	Volunteer	
	Blazer Kitchen Food Pantry	
	The University of Alabama at Birmingham (UAB), AL	
04 Dec 2024	Poster Judge – In-Person Live Presentations (Shifts A & B)	
	Day of Service: Fall 2024 Undergraduate Research Expo	
	Venue: National Alumni Society House, UAB	
27 Jul 2023	Poster Judge – In-Person Live Presentations (Shifts A & B)	
	Day of Service: Summer 2023 Undergraduate Research Expo	
	Venue: National Alumni Society House, UAB	

26 Jul 2023	Oral Judge – In-Person Live Presentations
	Day of Service: Summer 2023 Undergraduate Research Expo
	Venue: Mervyn H. Sterne Library, UAB
20 Apr 2023	Poster Judge – In-Person Live Presentations
	Day of Service: Spring 2023 Undergraduate Research Expo
	Venue: Bartow Arena, UAB
04 Mar 2023	Volunteer – UAB Unite Day 2023
	Organized by UAB National Alumni Society
	Venue: Glen Iris Elementary School, Birmingham
30 Nov 2022	Poster Judge – In-Person Live Presentations
	Day of Service: Fall 2022 Undergraduate Research Expo
	Venue: National Alumni Society House, UAB
29 Nov 2022	Oral Judge – In-Person Live Presentations
	Day of Service: Fall 2022 Undergraduate Research Expo
	Venue: Mervyn H. Sterne Library, UAB
17 Sep 2022	Volunteer – Into the Streets
	Venue: Glen Iris Elementary School, Birmingham

Extra-curricular Activities

Jan 2025 – To date	President, Bangladeshi Student Association (BSA), The University of Alabama at Birmingham (UAB), AL
May 2024 – To date	Senator, Budget Committee, Graduate Student Government (GSG), The University of Alabama at Birmingham (UAB), AL
Aug 2024 – To date	Reviewer, Microsoft Conference Management Toolkit (CMT)
Jan 2024 – To date	Donor, LifeSouth Community Blood Centers, Birmingham, AL
May 2019 – Aug 2022	Coach, Programming team, University of Chittagong, Bangladesh
May 2019 – Aug 2022	Voluntary member, Outcome-based Education (OBE) curriculum plan, University of Chittagong, Bangladesh
Mar 2017 – May 2019	Advisor, ICT Association, Comilla University, Bangladesh
Jan 2014 – Mar 2017	Mentor, Computer and Cultural Club of Southern University Bangladesh

Reference

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	Department of Computer Science, College of Arts & Sciences
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