

# Nirob Arefin

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## RESEARCH INTEREST

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- Computer Security and Privacy
- Computer Networks
- Software Systems

## EDUCATION

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### B.Sc. in Computer Science and Engineering

Bangladesh University of Engineering and Technology (BUET)  
CGPA: 3.43 on a scale of 4.00

Feb 2016 – Feb 2021  
Dhaka, Bangladesh

## PUBLICATIONS

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### On age prediction from facial images in presence of facial expressions 📄

Nov 2021

Md. Shahedul Haque Shawon, Sagor Biswas, **Nirob Arefin**, Tanmoy Sarkar Pias,  
Ashikur Rahman  
*International Journal of Applied Pattern Recognition*, 6(4), pp.345-369.

## RESEARCH

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### DoT: Degradation of Throughput by the Adversarial Behavior of Nodes in TeraHertz Communication Systems

- Discovered a novel attack scenario for a newly proposed MAC protocol in THz communications.
- Simulated in ns-3 and showed that adversary nodes could significantly reduce the network throughput.

### MGMD-GAN: Generalization Improvement of Generative Adversarial Networks with Multiple Generator Multiple Discriminator Framework Against Membership Inference Attacks

- Proposed a new GAN framework with multiple generators and multiple discriminators.
- Showed with experimental analysis that the generalization gap is reduced for the proposed model, making it less vulnerable to Membership Inference Attacks.

### Investigating Denial of Service Vulnerabilities in WPA3 Based Wireless Networks

- Analyzed the prevention mechanism for Denial of Service attack in case of deauthentication or disassociation frame, mentioned in the paper "On the Robustness of Wi-Fi Deauthentication Countermeasures"
- Conducted experiment using Linux hostapd along with a wifi-adaptor.

## PROFICIENCY TEST SCORES

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### Graduate Record Examination (GRE)

Score: 317

Verbal: 153, Quantitative: 164, AWA: 3.5

### TOEFL

Score: 111

Reading: 29, Listening: 28, Speaking: 27, Writing: 27

## PROFESSIONAL EXPERIENCE

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### Incepta Solutions

Ontario, Canada

Remote

#### Practice Manager | Data, Automation, and AI

Jul 2024 – Present

- Leading the engineering team for AgentSense, a brand under Incepta, focused on developing custom GenAI solutions for enterprises.
- Leading cross-functional teams to deliver innovative data and integration solutions.
- Designing solution architectures and managing end-to-end project execution using Agile methodologies.

#### Senior Software Developer

Jan 2023 – Jun 2024

- Developed an *Invoice Management Application* that automatically extracts information from uploaded invoices, stores it in a database, and synchronizes with *Salesforce*. Technologies include *Java Servlet*, *JSP*, *Tomcat*, and *MySQL*.

- Developed *Employee Onboarding-Offboarding Automation* for a Canadian Municipality that includes various on-premise and cloud applications.
- Worked on upgrading and enhancing a legacy budget application for a global beverage company.

#### Software Developer

Jan 2022 – Dec 2022

- Developed over 50 integrations in *Workato* with different applications for a leading information security and data privacy provider.
- Analyzed security aspects of APIs of an application with a leading API security platform - *Noname Security*.
- Built a *MuleSoft* application that synchronizes changes in *Salesforce* with an external database.

#### Synesis IT Ltd.

Feb 2021 – Dec 2021

Onsite

Dhaka, Bangladesh

#### Programmer

- Worked with the NEIR team that developed an application for the Bangladesh Govt. to check the use of illegal and stolen handsets. Key responsibilities included developing the web portal using the *Angular* framework and developing APIs using the *Spring Boot* framework.
- National Equipment Identity Register [↗](#)

## SELECTED PROJECTS

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### Travelers\_Guide [↗](#)

*Django, JavaScript, CSS, HTML*

A website to guide travelers to find out the nearest tourist spots, restaurants, and transportation in Dhaka City. Notable features include route navigation, reviews, recommending new spots, etc.

### Art Gallery Management System [↗](#)

*Oracle, Java, JavaFX*

A Database management system for an Art Gallery.

### ICMP Blind Connection Reset Attack [↗](#)

*C, Shell*

Prevents a user from accessing the internet by continuously sending ICMP error messages.

### Known Password Attack [↗](#)

*Python*

A security breach system to sign in to others' accounts.

### Catch That Egg [↗](#)

*C, C++, i-Graphics*

Egg Catching game with multiple levels.

## TECHNICAL SKILLS

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- **Programming Languages:** C, C++, Python, Java, SQL, TypeScript, Ruby, Dataweave, HTML, RAML, Bash
- **Frameworks:** Angular, Spring Boot, Java Servlet and JSP, Django, JavaFX, openCV
- **Databases:** Oracle, MySQL
- **Automation and Integration Platforms:** MuleSoft, Workato, UiPath, SnapLogic
- **Cloud Computing Platforms:** Amazon Web Services, Microsoft Azure
- **Operating Systems:** Windows, Linux
- **Tools:** Git, Matlab, Wireshark, ns-2, ns-3, Latex

## PROFESSIONAL CERTIFICATIONS

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- **MuleSoft:** Certified MuleSoft Developer (Level 1)
- **Workato:** Automation Pro I, Automation Pro II, and Automation Pro III
- **SnapLogic:** SnapLogic Certified Administrator

## ACHIEVEMENTS

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- Our team ranked **3rd** in the **Incepta AI Hackathon, 2024**
- National Essay Writing competition: **2nd** in 2011
- National Extempore Speech competition: **3rd** in 2011, **2nd** in 2012

## COMMUNITY SERVICES & EXTRACURRICULARS

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### Blood Donation

2016 – present

Actively respond to blood donation requests whenever possible. Received an honorary award from the BUET blood donors community, Badhan BUET.

### President

Jun 2019 – Feb 2021

Kantho:BUET, a reciting club of BUET

### Class Representative

Feb 2016 – Feb 2021

Represented Section A of the CSE Department, class of 2021

### Member

Feb 2016 – Feb 2021

Kantho:BUET, BUET Radio, Badhan BUET, Students Association of Mymensingh

### Organizer

- Inter-university reciting competitions in 2016, 2017, and 2018
- Fests and Picnics of the CSE Department
- Central cultural program by BUET in 2019

### President

2011 – 2012

*Child Forum, Muktagacha Area, World Vision Bangladesh*

Raised awareness about sanitation, education, and leadership development for children in rural areas. Stopped several child marriages.

### Extra Curricular Activities

Reciting, Acting, Debating, Anchoring, Drawing


## REFERENCE


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### Dr. A. B. M. Alim Al Islam

*Professor*

Department of Computer Science and Engineering  
Bangladesh University of Engineering and Technology


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Website: [https://cse.buet.ac.bd/faculty/faculty\\_detail/razi](https://cse.buet.ac.bd/faculty/faculty_detail/razi) 

### Dr. A.K.M. Ashikur Rahman

*Professor*

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Bangladesh University of Engineering and Technology

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