

# Mohammed Latif Siddiq

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[GitHub](#) | [LinkedIn](#) | [Google Scholar](#) | [Researchgate](#)

## EDUCATION

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### University of Notre Dame

January, 2022 - Present

Ph.D. in Computer Science and Engineering

Department of Computer Science and Engineering

### Bangladesh University of Engineering and Technology

February, 2016 - February, 2021

Bachelor of Science in Computer Science and Engineering

Department of Computer Science and Engineering

CGPA: 3.46/4.00

## PROFESSIONAL EXPERIENCES

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### University of Notre Dame, IN, USA | *Graduate Teaching Assistant*

January, 2022 - Present

- **Spring 2022:** CSE 30321 Computer Architecture

### REVE Systems, Dhaka, Bangladesh | *Junior Software Engineer*

March, 2021 - November, 2021

- Working on enterprise software for Bangladesh Parliament Secretariat.
- **Tech stack:** Java servlet, JSP and MySQL.

## PUBLICATIONS

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### 1<sup>st</sup> Intl. Workshop on Natural Language-based Software Engineering Co-located with ICSE 2022

*BERT-Based GitHub Issue Report Classification*, Mohammed Latif Siddiq, and Joanna C. S. Santos

### 28<sup>th</sup> IEEE International Conference on Software Analysis, Evolution and Re-engineering (SANER 2021)

*SQIFIX : Learning Based Approach to Fix SQL Injection Vulnerabilities in Source Code*, Mohammed Latif

Siddiq\*, Md. Rezwanur Rahman Jahin\*, Mohammad Rafid Ul Islam, Rifat Shahriyar, and Anindya Iqbal

(\*Equal contribution)

## POSTERS & EXTENDED ABSTRACTS

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### IEEE Computer Society Bangladesh Chapter Winter Symposium 2020

*Bangla Captioning Image Taken by Blind People*(Extended Abstracts), Mohammed Latif Siddiq, Nafis

Tahmid Chowdhury

### Bangladesh Blockchain Olympiad, 2020

*Localized Sustainable and Ecofriendly Energy Generation and Distribution Using Blockchain Network:*

*Bangladesh Perspective*(Poster), Md. Abudllah Mia, Rashik Ahnaf, Mohammed Latif Siddiq, Md.

Mahmudur Rahman Sayem

*Online Blood Bank-Connecting Donors and Blood Needing People in Bangladesh*(Poster), **Mohammed Latif Siddiq**, Aditya Chakma and Farhan Tanvir Uthshaw

## RESEARCH PROJECTS

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### **Case Study: Wireshark**

*Open Source Project, Threat Modeling, CVE*

March, 2022

This study analyzed the architectural structure and threat modeling of an open-source packet capturing and visualizing tool, Wireshark. We decomposed the application, identified the threats, and documented a list of threats.

### **Telemedicine Sectors in Bangladesh**

*User-Centric Design, Human-Computer Interaction, Survey*

September, 2021

In this study, we aimed to determine the current state of the telemedicine industry in Bangladesh and its prospects. We created a telemedicine solution for this study, analyzed the top telemedicine solutions in the market, and compared them with our solution.

### **Detecting Security Bugs in GitHub Codes from the IoT Domain**

*Python, Deep Learning, GHTorrent*

July, 2021

I am now working on a research effort to uncover security flaws in IoT-related GitHub code under Dr. Gias Uddin, Assistant Professor, University of Calgary.

### **Online Text Clustering for MOOCs | Python, Deep Learning, Online Algorithm, Django, Nuxt**

April, 2021

Dr. Shubhra Kanti Karmaker, Assistant Professor at Auburn University in Alabama, and I worked together to establish a way to accomplish online text clustering for MOOC questions.

### **Bangla Image Captioning Captured by Blind People | Keras, TensorFlow, Python, AWS**

December, 2020

The Bangla captions for the image captured by blind persons, formally known as the VizWiz dataset, were generated using the deep learning model. This project was selected as one of the top 30 AI initiatives for the Bangladesh Government's AI for Bangla Competition.

### **Detecting Number of TCP and UDP Flows in SDN by ML**

*Machine Learning, Networking SDN, OpenFlow Protocol, Mininet, IPERF, Weka*

November 2020

We created a method to detect the number of TCP and UDP flows in a Software-Defined Network simulated in Mininet using IPERF to generate flows.

### **Security Attack Tools and Defenders | Python, Scapy**

June, 2020

In this project, I demonstrated common security attacks and solutions, such as port scanning, DOS attack on DNS servers, ARP Cache poisoning, Dictionary attack, etc.

## ACADEMIC PROJECTS

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### **Bugs Investigating and Mitigation | Django**

February, 2022

This project is a part of Secure Software Engineering in which I investigated bugs, their possible consequences and mitigation techniques.

### **Shashtho Sheba | Flutter, Node.js, Firebase, MongoDB, AppRTC, AWS**

November, 2020

A cluster-based telemedicine mobile application built under Dr. A.B.M. Alim Al Islam, Professor, Computer Science and Engineering, BUET. This application helps the doctor and patient find the real-life experience of a traditional doctor's chamber.

### **API for Bangladeshi Medicine | Node.js, MongoDB**

November, 2020

A subproduct of *Shashtho Sheba* providing the information of medicine such as price, generic name, and company name. The data is collected from the local online pharmacy to provide a up-to date information.

**Obogoto** | *Flutter, Google Apps Script, Google Map API, ML*

March, 2020

Obogoto is a mobile application for contact tracing and information providers about Covid-19. This product has been developed as a part of the response to the first wave of Covid-19. It helps to check out symptoms of Covid-19 and track real-time information about the affected rate and death rate. It also provides information about nearby hospitals and medical centers.

**Vasha Shikkha** | *Laravel, Flutter, MySQL, Node.js*

October, 2019

A cross-platform application for teaching language built under Dr. Anindya Iqbal, Professor, Computer Science and Engineering, BUET. This product intends to help people learn a new language interactively.

**Miscellaneous**

2016 - 2019

Using AtMega and Arduino, I created an RFID-based Ticket Purchasing System for Metro rail. I made an online book-sharing platform and a blood donation system using Java. I created a Snake and Ladder simulation using OpenGL and C.

## CERTIFICATES

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### **TOEFL iBT**

Total: 99(Out of 120, 30 Per section)

Reading: 24, Listening: 27, Speaking: 23, Writing: 25

### **LinkedIn Assessment**

C, C++, Python, Django, MongoDB, MySQL, Git, HTML, Windows server, and Machine Learning

### **Other Certifications**

Deep Learning Specialization(Coursera), Human-Computer Interaction I(Edx.org), Cyber Security

Essential(CISCO Learning Platform), Problem Solving (Advanced) Skills Certification Test(Hackerrank)

### **Problem Solving**

Codeforces(Highest Rating: 1620), Codechef(Highest Rating: 1841), Hackerrank(Highest Rating: 1780)

## HIGHLIGHTED ACADEMIC COURSES

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### **Graduate Course, University of Notre Dame**

CSE-60770 Secure Software Engineering

### **Undergraduate Course, Bangladesh University of Engineering and Technology**

CSE-405 Computer Security

CSE-423 Fault Tolerant Systems

CSE-463 Introduction to Bioinformatics

CSE-471 Machine Learning

CSE-473 Pattern Recognition

## ACHIEVEMENTS

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### **AI FOR BANGLA, BANGLADESH, 2021**

Position: Top 30

### **GOOGLE HASHCODE, GLOBAL, 2019**

Position: 5<sup>th</sup> Among Bangladeshi Teams

**IEEEEXTREME 12.0, GLOBAL, 2018**

Position: 4<sup>th</sup> Among Bangladeshi Teams

**AUB PROGRAMMING CONTEST, BANGLADESH, 2018**

Position: 11<sup>th</sup>

**SUMSUNG CODING CONTEST, BANGLADESH, 2018, 2019**

Finalist

**TECH FOR PEACE HACKATHON, BANGLADESH, 2017**

Winner

**SCHOLARSHIPS**

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**TRAVEL GRANTS, NSF ICSE 2022 TRAVEL AWARDS, 2022**

1,000\$ grants to participate ICSE 2022 in-person and Student Mentoring Workshop along with complimentary registration for the conference.

**MELCHOR FELLOWSHIP, UNIVERSITY OF NOTRE DAME, 2022-27**

Tuition scholarship including health insurance, payment of the technology, health center access fees and bimonthly stipends.

**TECHNICAL SCHOLARSHIP, BANGLADESH, 2016-20**

Complimentary scholarship for regular engineering students.

**GOVERNMENT SCHOLARSHIP, BANGLADESH, 2016-20**

Awarded For Outstanding Performance in Higher School Certificate Examination.

**GOVERNMENT SCHOLARSHIP, BANGLADESH, 2011-12**

Awarded For Outstanding Performance in Junior School Certificate Examination.

**TECHNICAL SKILLS**

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**Languages:** Java, C, C++, Python, Matlab, Dart, Shell

**Database:** Oracle, MySQL, SQLite, MongoDB, Firebase

**OS:** Windows, Linux, Windows Server 2016

**Version Control:** Git(GitHub, Bitbucket, Gitlab), TFS(Azure DevOps)

**Frameworks:** Vue.js, JSP, Flutter, JavaFX, Node.js, Django, Java servlet

**Web Technology:** HTML, CSS, Rest API, JSON, XML

**Cloud:** EC2, S3 Bucket, Azure

**Technical Writing:** L<sup>A</sup>T<sub>E</sub>X, Beamer, Overleaf

**Other:** Google Apps Script, Software Defined Networking, PyTorch, OpenGL, Weka, Mininet, NS2

**REFERENCES**

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**Dr. Joanna Cecilia da Silva Santos**

Assistant Professor, Department of Computer Science and Engineering  
University of Notre Dame, IN, USA.

**Email:** joannacss AT nd DOT edu

**Relation:** Ph.D. Advisor