

Mohammed Latif Siddiq

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

EDUCATION

University of Notre Dame

January, 2022 - Present

Ph.D. in Computer Science and Engineering

Department of Computer Science and Engineering

Running CGPA: 3.834/4.00

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

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.

PEER REVIEWED PUBLICATIONS

22nd **IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2022)**

An Empirical Study of Code Smells in Transformer-based Code Generation Techniques, **Mohammed Latif**

Siddiq, Shafayat Hossain Majumder, Maisha Rahman Mim, Sourov Jajodia, and Joanna C. S. Santos

1st **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

28th **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)

OTHER PUBLICATIONS

ArXiv Preprint, May, 2022

Shashthosheba: Dissecting Perception of Bangladeshi People towards Telemedicine Apps through the Lens of

Features of the Apps(Preprint), Waqar Hassan Khan, Md Al Imran, Ahmed Nafis Fuad, **Mohammed Latif Siddiq**, ABM Islam

IEEE Computer Society Bangladesh Chapter Winter Symposium 2020

Bangla Captioning Image Taken by Blind People(Extended Abstract), **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

4th International Conference on Networking, Systems and Security (NSysS 2017)

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

RESEARCH PROJECTS

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

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

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

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

AI FOR BANGLA, BANGLADESH, 2021

Position: Top 30

GOOGLE HASHCODE, GLOBAL, 2019

Position: 5th Among Bangladeshi Teams

IEEEEXTREME 12.0, GLOBAL, 2018

Position: 4th Among Bangladeshi Teams

AUB PROGRAMMING CONTEST, BANGLADESH, 2018

Position: 11th

SUMSUNG CODING CONTEST, BANGLADESH, 2018, 2019

Finalist

TECH FOR PEACE HACKATHON, BANGLADESH, 2017

Winner

SCHOLARSHIPS

TRAVEL GRANTS, NSF ICSE 2022 TRAVEL AWARDS, 2022

1,075\$ 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

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

Database: Oracle, MySQL, SQLite, MongoDB, Firebase

OS: Windows, Ubuntu 20.04, Windows Server 2016, Mac OS Monterey, CentOS 7/RedHat

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^AT_EX, Beamer, Overleaf

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

REFERENCES

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