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

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.

PUBLICATIONS

28^{th}**IEEE International Conference on Software Analysis, Evolution and Re-engineering (SANER 2021)**

SQLIFIX : 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

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

4^{th} **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

Telemedicine Sectors in Bangladesh
User-Centric Design, Human Computer Interaction, Survey Septenmber, 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

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 the 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 about Covid-19 and track real-time information about the affected rate, 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 in an interactive manner.

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(Cousera), 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)

ACHIEVEMENTS

AI FOR BANGLA, BANGLADESH, 2021
Position: Top 30

GOOGLE HASHCODE, GLOBAL, 2019
Position: 5^{th} Among Bangladeshi Teams

IEEEXTREME 12.0, GLOBAL, 2018
Position: 4^{th} Among Bangladeshi Teams

AUB PROGRAMMING CONTEST, BANGLADESH, 2018
Position: 11^{th}

SUMSUNG CODING CONTEST, BANGLADESH, 2018, 2019
Finalist

TECH FOR PEACE HACKATHON, BANGLADESH, 2017
Winner

SCHOLARSHIPS

TUITION SCHOLARSHIP, UNIVERSITY OF NOTRE DAME, 2022-27
Tuition scholarship including health insurance, payment of the technology and health center access fees from University of Notre Dame.

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, 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: LaTeX, 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

Dr. Anindya Iqbal
Professor, Department of Computer Science and Engineering
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh.
Email: anindya_iqbal AT yahoo DOT com
Relation: Undergrad Thesis Supervisor