

# Md. Musharaf Hossain (he/him)

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I've completed my BSc in **Computer Science and Engineering** from **BUET**. I'm currently working as **Software Engineer** in **ReliSource Technologies Ltd.**. I possess a genuine passion for Software Engineering and am determined to build a career as a **Software Engineer** with continuous learning and growth.



## Work Experience

April, 2024 – Present	<div><div></div><div><b>Software Engineer</b>, ReliSource Technologies Ltd. Currently working on the development, enhancement, and maintenance of multiple enterprise-level solutions under the Microsoft ecosystem. Responsibilities include designing and implementing <b>.NET Web APIs</b>, <b>Azure Function Apps</b>, and full-stack <b>ASP.NET MVC</b> applications. Involved in building cloud-native, event-driven architectures leveraging <b>Azure Service Bus</b>, <b>Event Bus</b>, and integrating secure, scalable data solutions using <b>Cosmos DB</b>, <b>Azure SQL</b>, and <b>Blob Storage</b>. Experienced in implementing <b>Azure Application Insights</b> for observability, managing secrets via <b>Azure Key Vault</b>, and deploying CI/CD pipelines through <b>Azure DevOps</b>. <b>Tech Stack:</b> .NET 8 Web API, ASP.NET Core MVC, Azure Function Apps, Entity Framework, Cosmos DB, Azure SQL, Azure Service Bus, Event Bus, Blob Storage, Azure Key Vault, Application Insights, SQL Server Reporting Services (SSRS) <b>DevOps Environment:</b> Microsoft Azure DevOps</div></div>
June, 2023 – March, 2024	<div><div></div><div><b>Programmer</b>, Automated ICT System of Grameen Bank. I was involved in the development of an ICT System ERP Project for Grameen Bank which includes a Microfinance Software Solution to facilitate and optimize Grameen Banks microfinance operations and a HRM Solution to streamline and automate its human resource functions. <b>Tech Stack:</b> ASP.NET Core MVC, Entity Framework, MS SQL Server, Windows Form etc.</div></div>

## Skills

Programming Languages	<div><div></div><div>C, C++, C#, Java, Python, JavaScript, TypeScript, SQL, HTML/CSS, Assembly, <math>\LaTeX</math></div></div>
Frameworks and Technologies	<div><div></div><div>.NET 8, ASP.NET Core MVC, Web API, Entity Framework, Azure Function Apps, ReactJS, VueJS, NodeJS, Django, Bootstrap, JQuery</div></div>
Cloud and DevOps	<div><div></div><div>Microsoft Azure, Azure DevOps, Azure Service Bus, Event Bus, Azure Key Vault, Application Insights, Blob Storage</div></div>
Databases	<div><div></div><div>Azure SQL, MS SQL Server, Cosmos DB, Oracle Database, MySQL</div></div>
Operating Systems	<div><div></div><div>Windows, Linux</div></div>
Miscellaneous	<div><div></div><div>Git, Docker, Shell Scripting, IIS Server, SSRS, REST APIs, Microsoft Office</div></div>




## Education

- 2018 – May, 2023  **Bangladesh University of Engineering and Technology**  
B.Sc. in Computer Science and Engineering (CSE)  
• Passed with CGPA 3.80/4.00
- 2015 – 2017  **Notre Dame College, Dhaka**  
Higher Secondary Certificate (HSC)  
• Passed with GPA 5.00/5.00

## Academic Projects


- 07/2022 – 08/2022  **EasyWork: A Software Project Management Tool**  
• Tech Stack: [React.js](#),
- 01/2023 – 02/2023  **ML Project: Handwritten Text Recognition**  
• Dataset: IAM Handwriting Database  
• Model: Residual Network
- 11/2020 – 12/2020  **EasyShop: An Online Shopping Platform**  
• Tech Stack: [Vue.js](#), [Node.js](#)
- 01/2019 – 02/2019  **eTicket: An Online Ticket Booking System**  
• Tech Stack: [JavaFX](#), [Java Socket Servers](#)

## Research Experience

-  **Automated Bug Fixing on SWE-bench using Agentic Systems**  
Conducted extensive experiments on the **SWE-bench** benchmark to develop an **agentic system** capable of autonomously reproducing, analyzing, and fixing real-world GitHub issues. Designed multi-phase workflows integrating **role-switching agents**, feedback-driven retries, and **reproduction script generation** to enhance accuracy and scalability. The final system, powered by **Qwen3-Coder**, achieved a **67.5% resolution rate** on 200 benchmark problems—significantly outperforming baseline methods.
-  **TroBot – Trojan-based Social Engineering Attack via AI Chatbots**  
Designed and analyzed a proof-of-concept malware attack that embeds a **Nim reverse shell** within an AI chatbot installer. Studied social engineering-driven distribution, persistence through **Task Scheduler**, and evasion of **Windows Defender**, contributing insights into emerging chatbot-themed attack vectors and defense strategies.
-  **Effect of Smile on Facial Landmark Based Face Recognition**  
This research investigates the impact of smiles on facial landmark-based face recognition accuracy using traditional machine learning techniques. The study proposes novel smile-based features and demonstrates performance enhancement using multiple classifiers.

## Research Publications

### Conference Proceedings

-  S. Dey, **M. M. Hossain**, A. M. Hasan, A. Rahman, and T. Tarin, “Effect of smile on facial landmark based face recognition,” in *Proceedings of the 2023 IEEE Systems, Man, and Cybernetics (IEEE SMC 2023)*, Oahu, Hawaii, 2023.