

# Mushfiqur Rahman

927-East Ashkona, Hazz Camp, Dakshinkhan, Dhaka-1230, Bangladesh

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## EXECUTIVE SUMMARY

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- Final-year undergraduate student in Computer Science and Engineering at **Bangladesh University of Engineering and Technology (BUET)**.
- Research interests include **software automation and testing**, **autonomous transportation systems**, and **bioinformatics and computational biology**.

## EDUCATION

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**Bangladesh University Of Engineering And Technology, Dhaka** July, 2021 - present

Bachelor of Science in Computer Science and Engineering

Department of Computer Science and Engineering

CGPA - 3.65/4.00

**Rajshahi College, Rajshahi** April, 2018 – April, 2020

Higher Secondary Certificate

GPA - 5.00/5.00

## PROJECTS

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**C Compiler - [Github Link](#)** November, 2023 - April, 2024

- . Developed a C compiler using flex and bison that converts a subset of C language into 8086 assembly language.
- . *Tools:* C, C++, Flex, and Bison.

**BIIS - [Github Link](#)** June, 2023 - August, 2023

- . Developed a platform for administrators, faculty, students, and parents to access and manage institutional information.
- . *Tools:* HTML, CSS, JavaScript, NodeJS, EJS, and Bootstrap.

**Movie Hub - [Github Link](#)** May, 2022 - July, 2022

- . Developed an application to manage a movie database stored in files and update the database in real time.
- . *Tools:* Java, JavaFX, and Java Networking.

**Street Racer - [Github Link](#)** January, 2022 - April, 2022

- . Developed a classical racing game where you need to reach destination within given time avoiding other cars.
- . *Tools:* C, C++, and iGraphics.

## PUBLICATIONS

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- **Mushfiqur Rahman** and Mohammed Latif Siddiq. ”**Code Comment Classification with Data Augmentation and Transformer-Based Models**”. *4th International Workshop on Natural Language-based Software Engineering (NLBSE 2025)*. (October, 2024 – May, 2025) [DOI: [10.1109/NLBSE66842.2025.00013](https://doi.org/10.1109/NLBSE66842.2025.00013)]
  - We designed and implemented various data augmentation techniques specific to code-comment semantics.
  - We fine-tuned transformer-based models (CodeBERT, RoBERTa) for multi-class classification of comments.
  - We conducted ablation studies and hyperparameter tuning to evaluate the impact of augmentation.
  - We analyzed the results and prepared the manuscript, which was accepted and published at NLBSE 2025.

## ONGOING RESEARCH

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- **Analyzing Pedestrian Behavior in Autonomous Vehicle Simulations: Path Clustering, Knot Detection, and Human Annotation.** (April, 2024 – Ongoing)
  - We designed an experimental framework for clustering pedestrian movement paths and identifying unusual trajectories.
  - We investigated the effectiveness of knot-based path simplification using curvature, distance, and area-based metrics.
  - We developed a large-scale human annotation platform to gather knot placement behavior.
  - We are currently analyzing annotation patterns and reconstruction accuracy to define a human-derived ground truth for AV simulation benchmarking.

## SKILLS

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<b>Languages:</b>	C, C++, Java, Python, JavaScript
<b>Web Styling and Frameworks:</b>	NodeJS, React, Next.js, EJS, JavaFX, CSS, HTML, Bootstrap, Spring Boot
<b>Machine Learning:</b>	Scikit-learn, TensorFlow, Keras, PyTorch, Pandas, NumPy, Matplotlib
<b>Database:</b>	Oracle, MySQL
<b>DevOps and Tools:</b>	Git (GitHub), Docker, GitHub Actions, VS Code, Postman
<b>Technical Writing:</b>	LaTeX, Beamer, TikZ

## ACHIEVEMENTS

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- . **BUET CSE Fest Hackathon, 2023** - Qualified for first round in DevOps catagory.
- . **Srijonshil Medha Onneshon, 2017** - Qualified for Rajshahi region.

## SCHOLARSHIPS

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- . **BUET Technical Scholarship, (2022 - Ongoing)**  
Awarded for Excellent Performance in Higher Secondary Certificate Examination.
- . **Govt. Talentpool Scholarship, (2021 - Ongoing)**  
Awarded for Excellent Performance in Higher Secondary Certificate Examination.
- . **Govt. General Scholarship, (2018 - 2019)**  
Awarded for Excellent Performance in Higher Secondary Certificate Examination.
- . **Govt. Talentpool Scholarship, (2016 - 2017)**  
Awarded for Excellent Performance in Junior School Certificate Examination.
- . **Govt. Talentpool Scholarship, (2012 - 2014)**  
Awarded for Excellent Performance in Primary School Certificate Examination.