# Mahmudul Hasan

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GitHub | Google Scholar

## EDUCATION

**Khulna University of Engineering & Technology** January 2018 – February 2023
*B.Sc. in Computer Science and Engineering*
CGPA: **3.85/4.00**

## RESEARCH EXPERIENCE

**Khulna University of Engineering & Technology** 2020 - 2023
*Undergraduate Research*

- Conducted original research in the field of Natural Language Processing (NLP) for the undergraduate thesis, focusing on aspect-level sentiment analysis in Bangla text documents, presenting the study at ICCIT 2023, titled "Aspect Based Sentiment Detection from Natural Bangla Text".
- Carried out computer vision-based research for traffic density estimation on roads, and presented the research at ICEEICT 2021, titled "Estimating Traffic Density on Roads using Convolutional Neural Network with Batch Normalization".

## PROFESSIONAL EXPERIENCE

**Khulna University of Engineering & Technology** *Dec 29, 2024 - Present*
*Lecturer, Institute of Information and Communication Technology*

**IUBAT- International University of Business Agriculture and Technology** *May 21, 2023 - Dec 29, 2024*
*Lecturer, Department of Computer Science and Engineering*

## CONFERENCE PUBLICATIONS

1. **Mahmudul Hasan**, Md. Nazirul Hasan Shawon and K. M. Azharul Hasan. "Aspect Based Sentiment Detection from Natural Bangla Text". In *26th International Conference on Computer and Information Technology (ICCIT), IEEE,* 2023.

2. Md. Nafis Tahmid Akhand, Sunanda Das and **Mahmudul Hasan**. "Traffic Density Estimation Using Transfer Learning with Pre-trained InceptionResNetV2 Network". In *MIDAS 2021: International Conference on Machine Intelligence and Data Science Application, Lecture Notes on Data Engineering and Communications Technologies, vol 132. Springer, Singapore.*

3. **Mahmudul Hasan**, Sunanda Das and Md. Nafis Tahmid Akhand. "Estimating Traffic Density on Roads using Convolutional Neural Network with Batch Normalization". In *5th International Conference on Electrical Engineering and Information Communication Technology (ICEEICT), IEEE, 2021.*

## JOURNAL PUBLICATIONS

1. **Mahmudul Hasan**, Md. Rashedul Ghani and K.M. Azharul Hasan. "Aspect based sentiment analysis datasets for Bangla text". *Data in Brief, Volume 57, 2024, 111107, ISSN 2352-3409.*

## CONFERENCE PRESENTATIONS

1. Oral presentation of the paper "Aspect Based Sentiment Detection from Natural Bangla Text" at the *26th International Conference on Computer and Information Technology (ICCIT)*, Virtual, 2023.

2. Oral presentation of the paper "Estimating Traffic Density on Roads using Convolutional Neural Network with Batch Normalization" at the *5th International Conference on Electrical Engineering and Information Communication Technology (ICEEICT)*, Virtual, 2021.

## HONORS & AWARDS

**Miyan Publication Reward-2025:** Issued by the Miyan Research Institute, IUBAT, as recognition of the indexed publication in 2024.

**Dean's List Award:** Issued by the Faculty of Electrical and Electronic Engineering, KUET, for maintaining an average GPA above 3.75 in academic sessions 2017-2018, 2018-2019, 2019-2020, and 2020-2021.

**Education Board Scholarship:** Issued by the Board of Intermediate and Secondary Education, Dhaka, for outstanding result with a GPA of 5.00 in the Secondary School Certificate examination, 2015.

## SELECTED ACADEMIC PROJECTS

Find & Shoot — 2022

- Developed a deep-learning based two player ball shooting game in which shoot down the opponent from the distance and save yourself by not getting shoot. Utilized computer vision, image processing, and deep learning technologies with Python, OpenCV, and TensorFlow.

Compiler — 2021

- Developed a lightweight compiler for a simple programming language designed for basic problem-solving and calculations. Utilized tools like Bison, Flex, and GCC for building the compiler, supporting operations such as loops, conditionals, and mathematical functions.

Smart Gas Filling Station (Hardware project) — 2021

- Build a prototype for a smart and automate gas filling station. Utilized C++ as programming language and hardware including Arduino, RFID, Matrix Keypad and LCD Display to make the project.

Online Tutor Finder System — 2021

- Designed and Developed a web application to find expected tutor for the students. Utilized web development technologies, including HTML, CSS, JavaScript, MySQL, and PHP.

Engineering Books 2019

- Developed an android application for engineering book collection which could be used to read and download engineering text books. Utilized android studio to build the application where Java programming language was used.

## TECHNICAL SKILLS

**Programming Language:** C, C++, C#, Java, JavaScript, PHP, Python, Swift
**Machine Learning Toolkits:** PyTorch, TensorFlow, NumPy, Scikit-learn, OpenCV
**Mobile Development IDE:** Android Studio, Xcode (iOS)
**DBMS:** Oracle, MySQL
**Version control:** Git
**Software Packages:** Logisim, CISCO Packet Tracer, ModelSim
**Operating system:** Windows, Ubuntu, macOS
**Others:** OpenGL, Arduino

## REFERENCES

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