

Akif Zahin

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EDUCATION

North South University

Bachelor of Science in Computer Science and Engineering — Current CGPA: 3.45

Dhaka, Bangladesh

Oct 2021 – Dec 2025

South Breeze School Uttara

O-Levels & A-Levels

Dhaka, Bangladesh

June 2019 – June 2021

- **O-Level Grades:** four 8s and four 9s
- **A-Level Grades:** two A*s and two As

PROJECTS

NewLens | *Python, FastAPI, PyTorch, HTML, JavaScript, REST API, Docker*

July 2024 – Dec 2024

- Engineered a full-stack web application for real-time sentiment and political bias detection in news articles.
- Fine-tuned a **BERT-based transformer model** using the HuggingFace pipeline to classify bias as **Left, Right, or Neutral**.
- Implemented **FastAPI REST endpoints** for inference and model serving with asynchronous I/O for low latency.
- Integrated responsive frontend using vanilla JS and asynchronous fetch calls for dynamic article analysis.
- Containerized the entire system using Docker for reproducible deployment.
- Part of junior design project (**CSE299**).

LM-FCIL | *Python, Kotlin, TensorFlow, TFLite, Federated Learning, OpenCV*

Jan 2025 – Aug 2025

- Developed an Android app that performs **offline handwriting segmentation and recognition** using deep CNNs and image preprocessing via OpenCV.
- Implemented a **Federated Learning** framework allowing model updates on edge devices without sharing raw data, preserving privacy.
- Used **MobileNetV3 Small** as backbone for lightweight efficient training.
- Designed a client-server synchronization protocol for decentralized training and parameter aggregation.
- Part of senior research project (**CSE498R**).

TimeGaitNet | *Python, TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas*

June 2025 – Dec 2025

- Designed a deep learning pipeline for **Parkinson's Freezing of Gait (FoG) detection** using wearable sensor data.
- Leveraged **multi-task learning** to improve model generalization across subjects.
- Implemented a multimodal fusion architecture combining temporal and spatial gait features.
- Used extensive data preprocessing and augmentation techniques to mitigate class imbalance.
- First novel use of state space models for FOG detection
- Part of senior capstone project (**CSE499B**).

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (MySQL), JavaScript, HTML/CSS, PHP

Frameworks: React, Node.js, FastAPI

Developer Tools: Git, VS Code, Android Studio

Libraries: pandas, NumPy, Matplotlib, Pytorch, Tensorflow, Seaborn

AWARDS

Full Merit Based Entrance Scholarship- North South University, 2021

Daily Star Award - O-Level Academic Excellence, 2019

EXTRACURRICULAR ACTIVITIES

Obsession Band

Guitarist & Vocalist

Dhaka, Bangladesh

Jan 2018 – Jan 2020

- Performed live at DPS STS School and Aga Khan School as part of the band **Obsession**.
- Collaborated with bandmates to compose and perform alternative rock and indie tracks.

Medium Blog Writing

Independent Writer

Online

Sep 2025 – Present

- Author of reflective essays on technology, philosophy, and human emotion.
- Explored themes of existentialism, grief, and the human condition through a creative and analytical lens.