

PROFILE SUMMARY

Currently doing Bachelor of Science in Computer Science and Engineering at North South University with experience in Python, Java, JavaScript, C/C++, and modern web stacks like Node.js, React, Django, and FastAPI for Full stack development and APIs. Have Hands-on experience in embedded systems for microcontroller-based IoT prototyping and applied deep learning projects in speech and NLP, with hybrid CNN-Transformer and CNN-BiLSTM models for Bengali emotion detection. Have a keen interest in building strong software and intelligent systems solving actual problems in academic, campus, and community settings.

TECHNICAL SKILLS

- **Programming & Development:** Python, Java, JavaScript, C, C++, PHP.
 - **Web Development:** Node.js, React, Django, FastAPI, HTML, CSS.
 - **Databases & APIs:** MongoDB, MySQL, REST APIs.
 - **AI/ML:** TensorFlow, PyTorch, Scikit-Learn, Computer Vision, Speech & Audio Processing, Pandas, NumPy, Matplotlib, Deep learning for speech/NLP, CNN, Transformer, BiLSTM, RAG for retrieval-augmented QA.
 - **Embedded/IoT:** Microcontroller-based embedded systems (IoT prototyping).
 - **Tools & Collaboration:** GitHub, Postman, Excel, Discord, Trello.
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EDUCATION

North South University

Bachelor of Computer Science | Current CGPA; 3.46 | Present

Fall 2021 - Summer 2025

Mastermind English Medium School 06/2019 – 06/2021

Higher Secondary (A-Levels)

Batch of 2021

Ibn Seena English High School 06/2012 – 06/2019

Secondary (O-Levels)

Batch of 2019

PROFESSIONAL EXPERIENCE

IEEE NSU Student Branch Women in Engineering Affinity Group – Vice Chair (Technical)

January, 2025 – Present

- Overlooking Graphics Team to suit with deadlines and logistics submissions.
- Supervising Media Team during events.

IEEE NSU Student Branch Women in Engineering Affinity Group – Graphics Team Lead

June, 2023 – January, 2025

- Created posters, crests and certificates for events.
- Supervised graphics volunteers.

CERTIFICATIONS & ACHIEVEMENTS

- High Achiever Certificate - International GCSE June 2019 series.
- Certificate of Merit - Best Video Editor, Students' Movie Festival 2015–2016.
- The Fundamentals of Digital Marketing - Google Digital Garage (09/2020).
- Quantum Information, Quantum Computing, and Quantum Machine Learning — Mahdy Research Academy (01/2024 – 06/2024).
- Participant of IEEE NSU SB Prompt Engineering Workshop 2024, "Workshop on Prompt Engineering".
- Participant of IEEE NSU SB IOT Workshop 2023, "IOT Workshop 2.0".
- Participant of IEEE NSU SB Data Analytics Workshop 2023, "Getting started with Python, NumPy and Matplotlib for Data Analytics".
- Participant of IEEE NSU SB Prompt Engineering Workshop 2024, "Workshop on Prompt Engineering".
- Participant of IEEE NSU SB Full Stack Web Development using Django Workshop 2024, "Full Stack Web Development with Python Django".
- Participant of IEEE NSU SB Public Speaking Workshop 2024, "Public Speaking: Speaking with Impact".
- Participant of IEEE NSU SB PCB Design Workshop 2024, "Workshop on PCB Design".
- Participant of IEEE NSU SB SEO Workshop 2024, "Cracking SEO: The Building Blocks of Digital Marketing".
- Participant of IEEE NSU SB Graphics Design Workshop 2024, "Graphics Designing".
- Participant of IEEE NSU SB UI/UX Workshop 2024, "Crafting User-Centric: A UI/UX Workshop".

- Participant of IEEE NSU SB Line Follower Robot Workshop 2024, "Workshop on Line Follower Robot".
 - 2nd Place — Poster Presentation Competition, IEEE NSU PES SBC (25/04/2024).
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PROJECTS

- **Thesis:** Emotion Detection from Bengali Voice using Deep Learning (Hybrid CNN-Transformer & CNN-BiLSTM)
 - Khuje Nao: Lost-and-found mobile app for North South University to report, search, and recover items.
 - Smart Freelance Hub: Junior-design website using machine learning to promote fair chance job matching and exposure.
 - PDF-based Q/A with RAG: Retrieval-augmented generation pipeline enabling accurate, cite-aware answers from PDFs.
 - NSU Discord Bot: Campus information and class reminder bot for students with schedule notifications.
 - Sneaker Store: PHP, phpMyAdmin (MySQL), HTML, CSS e-commerce site with inventory and cart basics.
 - Employee & Payroll System: A system with multiple database type connection. Employee was held by MongoDB and Payroll was held by PostgreSQL.
 - Electricity Management System: A system that monitors electricity consumption per house shown by a Raspberry Pi as an example and sends bills monthly to users' emails.
 - Smart Helmet Module: Pragmatic safety module to support adoption on Bangladeshi construction sites with sensor-driven alerts.
 - ESP8266 NodeMCU Custom Clock: A custom 4-digit clock that fetches time from wherever you are in the world using Wi-Fi and supports displaying custom messages.
 - STM32 Keypad Lock: A 4-digit keypad lock system with servo motor lock and unlock with remote unlock and lock support.
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SOFT SKILLS

- Languages: English (Fluent), Bangla (Native)
- Team collaboration and cross functional communication in student groups and technical teams.
- Tooling for backend testing and developer workflow using Postman and GitHub.
- Completed over 50+ problems in LeetCode.