

EDUCATION

Finland

LUT University

Sept 2024 - Jul 2027

- Major:** Computational Science and Artificial Intelligence, B.Sc. | **Minor:** Software and Systems Engineering
- Programming Coursework:** Fundamentals of Programming, DSA, OOP, Database Systems, Web Prgm., SQA, Cybersec., DevOps
- Computational Coursework:** Linear Algebra, Vector Analysis, Matrix Decomp, Multivariate Calculus, Probabilities & Statistics

WORK EXPERIENCE

Prime Tech Solutions Limited

Software & Data Engineer

May 2025 - Present

- Designed & developed the first census+survey data migration and SDMX system of Bangladesh for Govt. Bureau of Statistics.
- Collaborated with cross-functional Govt. depts to ensure data accuracy, metadata curation integrity, & policy compliance.
- Leveraged knowledge in Python, ETL/ELT Pipelines & Warehousing, Oracle, PostgreSQL, FastAPI, Pandas, SDMX, STATA, SPSS, Git.

LUT University

Teaching Assistant (FoP, OOP)

Sept 2025 - Present

- Conducted weekly exercise classes in the Fundamentals of Programming in Python and Object-Oriented Programming course.
- Developed attendance management and auto-grading prototype including project grader that overall improved productivity.

Propaganda Cycle (Research Work)

Software Developer/Co-author

May 2024 - Present

- Ongoing paper with researchers at UKassel and TU Dortmund using the data scraped by me from political figures on social media.
- Leveraged knowledge in Statistics, Sentiment Analysis, Python, Selenium, OpenCV, Pillow, CTk, Matplotlib, SQLite, Pandas.

ACTIVITIES

World Robot Olympiad (WRO)

National Coach

Jan 2023 - Dec 2023

- Led a team in the Future Innovators segment (national), focusing on robot construction, software design, & business analysis.
- Guided two national teams' participation in international competition rounds, one team achieved an impressive, first time in the history of Bangladeshi participants, a silver award out of 451 global teams at WRO '23 Panama.

Give Bangladesh Foundation

Web Developer

Sept 2023 - Dec 2025

- Collaborated with African NGO, Awake Youth Initiative, & built them a fundraising website for slum communities in Nairobi, Kenya.
- Leveraged knowledge in Full Stack Web Development, Javascript, Git, Figma for UI/UX Design, SEO, and Google Analytics.

Notre Dame IT Club

President, Robotics

Aug 2019 - June 2021

- Organized a 3-day national tech event with 1100+ participants, 20+ robotics competitions by leading a team of 70+ volunteers.
- Mentored 45+ national robotics/project teams, conducted 9 workshops along with 27+ robotics-oriented classes for 150+ students.
- Was commissioned by my school's ICT dept to design and build a national curriculum-oriented teaching module: a combined demonstration of clock pulse generators, logic gates, flip flops, registers, counters, and a 7-segment display on a breadboard.

AWARDS & ACHIEVEMENTS

Silver Medal • International Blockchain Olympiad (Hong Kong)

positioned among top national teams from 44 countries

Silver Honor • World Robot Olympiad - WRO (Panama)

first Bangladeshi coach to achieve top place among 77 countries

Silver Medal • Bangladesh Robot Olympiad

scored 2nd position among 20,000+ participants

Bronze Medal • Bangladesh Blockchain Olympiad

youngest developer to secure top national position at BCOLBD

National Finalist • NASA Space Apps Challenge

secured position among 2,000+ nationwide participants

PERSONAL PROJECTS

LUT FoP Attendance System & Auto-Grader

AUTOMATION APP FOR FUNDAMENTALS OF PROGRAMMING COURSE

Python

- Developed a Windows app for marking QR-based attendance in the exercise sessions, and auto-grading in Moodle gradebook.
- Utilized: Python, Tkinter, Scikit-Learn, SQLite, Selenium, BeautifulSoup, Multi-Threading, CodeGrade, Moodle.

Python Program Tester

PROJECT GRADING SOFTWARE FOR FUNDAMENTALS OF PROGRAMMING COURSE

Python

- Developed custom features including an integrated terminal, syntax highlighting, real-time file monitoring, and point tracking.
- Implemented time-saving functionalities like preset testing templates, hotkeys, and project-oriented grading schemes.
- Utilized: Python, Tkinter, Pillow, Watchdog, Pygments-lexer, Multi-Threading, CodeGrade.

Block Meter

BLOCKCHAIN-BASED ELECTRICITY BILLING SYSTEM

Python, C++, Solidity

- Devised an electricity billing system that eliminates non-technical losses by 100% and ensures transparency and immutability.
- Utilized: Python, C++, Solidity, PHP, Javascript, Ethereum, IPFS, BigChainDB, AES Encryption, ESP32, ThingSpeak.

Tethr

NETWORK TOWER POSITION OPTIMIZER USING MACHINE LEARNING

Python, C++

- Developed an ML-powered robotic system to optimize 5G network tower locations using automated aerial and ground drones.
- Incorporated non-parametric and density-based Mean Shift clustering algorithm, and Gradient Descent for optimization.
- Utilized: Python, C++, Scikit-Learn, OpenCV, YoloV8, Pandas, Raspberry Pi, Jetson Nano, ROS, FastAPI, Tkinter.

Social Media Bot

AUTOMATED SOCIAL MEDIA INTERACTOR AND DATA SCRAPER

Python

- Developed a bot that automatically interacts with Facebook and Instagram to scrape data from any public profile.
- Designed a user-friendly GUI for easy interaction with data scraper using CustomTkinter for improving the debugging capabilities.
- Utilized: Python, Selenium, BeautifulSoup, OpenCV, Pillow, CustomTkinter, Matplotlib, SQLite, Pandas.

SKILLS

Programming

Proficient: Python • C++ • C • Java • JavaScript • Typescript • SQL Familiar: PHP • MATLAB • LaTeX • R

Database & Pipelines

Oracle • PostgreSQL • MySQL • SQLite • Firebase • MongoDB • ETL/ELT Processes • SDMX Framework • Data Modeling

AI/ML & Data Analysis

PyTorch • Scikit-Learn • OpenCV • YOLOv8 • Pandas • NumPy • PowerBI • Excel • Stata • SPSS

Full-Stack & App Dev

React • Next.js • TailwindCSS • GSAP • FastAPI • Flask • Django • Selenium • Tkinter • Java Swing • Figma

IoT & Embedded

Arduino • Raspberry Pi • Teensy • ESP32 • STM32 • Sensor and actuator integration

Blockchain & DLT

Ethereum • Solidity • Hyperledger Fabric • Multichain • IPFS