Ananya Shahrin Promi

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SUMMARY

Motivated Computer Science and Engineering student with strong academics, skilled in programming, web development, and hardware integration. Currently pursuing a thesis on single-cell transcriptomics.

EDUCATION

Bangladesh University of Engineering and Technology (BUET)   December 2021 – Ongoing
Bachelor of Science in Computer Science and Engineering (CSE)   *Current CGPA: 3.96/4.00*
Rajshahi College   July 2018 – January 2021
Higher Secondary Level   *GPA: 5.00/5.00*

RESEARCH EXPERIENCE

Non-Invasive Prediction of Heart Gene Expression from Blood | *Academic Thesis*   April 2025 – Present
Applying deep learning techniques inspired by CycleGAN to predict heart cell gene expression from blood samples. Learning mappings between unpaired, high-dimensional single-cell transcriptomic datasets to enable non-invasive inference of patient-level heart gene expression patterns.

PROFESSIONAL EXPERIENCE

CoderVai | *Online Course Instructor: CSE Fundamentals*   January 2024 – Present
Developing and launching an online course that introduces students to the fundamentals of Structural Programming Languages (SPL) within the broader context of CSE.

Bangladeshi Women in Computer Science and Engineering | *President*   April 2025 – Present
Leading a student club focused on empowering women in tech.

BUET Cyber Security Club | *Treasurer*   March 2025 – Present
Managing club budget, sponsorships, and financial records.

Bangladesh Mathematical Olympiad | *Academic Team Member*   2020 – Present
Preparing problem sets for the Olympiad, checking scripts, and taking classes in camps.

Udvash Academic and Admission Care | *Math Instructor*   January 2022 – December 2023
Taught high school mathematics and improved student engagement through interactive activities.

CrossRoads Initiative | *SAT Math Instructor*   June 2021 – January 2022
Prepared students for the SAT Math section by developing engaging lesson plans and practice exercises.

SCHOLARSHIPS AND ACHIEVEMENTS

University Merit Scholarship, (2023 – Ongoing) - For Extraordinary Performance in the last semesters.
Dean's List Scholarship, (2022 – Ongoing) - For Outstanding Performance in Level-1 and Level-2.
BUET Technical Scholarship, (2021 – Ongoing)
Government General Higher Secondary Certificate Scholarship, (2021 – 2024)
SOLVIO AI Hackathon, 2025 – Top 50 Teams
Grameenphone FutureMakers, 2025 – Round 2 Finalists
BUET CSE Fest Hackathon, 2024 – Best UI/UX (Microservices and DevOps)
HULT PRIZE, on-campus round, BUET, 2023 – Top 16 qualifier teams
Intra BUET Capture The Flag (CTF), 2023 – Rising Team
BUET CSE Fest Hackathon, 2023 – Top 15 qualifying teams (API and Cloud Service section)
BUET CSE-20 Reception Programming Contest, 2022 – 7th position
BUET CSE-20 Reception Treasure Hunt, 2022 – Champion Team

Coursework

Operating System, AI, Information System Design, Concrete Mathematics, Computer Networks, Computer Architecture, Software Engineering, Compiler, Data Communication, Embedded Systems, Theory of Computation, Database, Digital Logic Design, Numerical Methods, Discrete Mathematics, Data Structure and Algorithm, Object Oriented Programming, Structured Programming Language, Bioinformatics, Graph Theory

Projects

GradPilot ▶ ⦿ | *Software Development Team Project*   August 2025
- Built an AI/ML-based platform assisting students in graduate school applications.
- Features include chatbot, profile analysis, university/professor recommendations, SOP review, scholarship finder, forum, and mentor support
- **Tech Stack:** React, Spring Boot, PostgreSQL.

Railway Ticketing Website ▶ ⦿ | *BCF Hackathon 2024 (Microservices and DevOps)*   October 2024
- Designed and implemented a scalable microservice-based train ticket booking system.
- Implemented CI/CD pipelines with GitHub Actions, containerized services using Docker.
- **Technologies:** Node.js, JavaScript, and Next.js with MongoDB

DeepVision Voyager ▶ ⦿ | *Team Project*   February 2024
- Built a WiFi-controlled robot with object detection in the live video stream.
- **Hardware:** Raspberry Pi 4, Motor and motor driver, Webcam, WiFi adapter, servo motor, and Power bank.
- **Technologies:** YOLOv3, Socket Programming, and Python.

4-bit ALU and MIPS ⦿ | *Team project*   February 2024
- Developed a 4-bit ALU (Arithmetic Logic Unit) and a 4-bit MIPS (Microprocessor without Interlocked Pipelined Stages).
- **Hardware:** ATmega32A and basic gates.

C Compiler ⦿   February 2024
- Developed a simple C compiler for a small subset of the language.
- **Technologies:** Flex and Bison.

My Bibliophile Friend ▶ ⦿ | *Team project*   September 2023
- Developed Bibliophile, a web platform for book enthusiasts to connect and exchange books.
- **Technologies:** Oracle SQL, Node.js, JavaScript, and Next.js framework.

Tetris What's Wrong ▶ ⦿ | *Game Jam 2023, IEEE CS, BUET*   January 2023
- Developed Reverse Tetris, a single-player game that subverts classic Tetris gameplay.
- **Technologies:** Godot Engine and GDScripts.

Movie Database Management ▶ ⦿   September 2022
- Developed a file-based movie database management system.
- **Technologies:** Java, JavaFX, and networking.

Game: Mission Extreme ▶ ⦿ | *Team project*   April 2022
- Developed a simple running and chasing game.
- **Technologies:** C++ and iGraphics.

Skills

Programming: C, C++, Java, Python, JavaScript, GDScript
Databases: Oracle, MongoDB, PostgreSQL
Operating Systems: Windows, Ubuntu, macOS, xv6
Web & Software Development: HTML, CSS, JavaFX, Node.js, Next.js, React, Spring Boot
AI & Data Science: PyTorch, TensorFlow, scRNA-seq Analysis, Single-cell Bioinformatics, Statistics
Networking & Security: Socket Programming, Multi-threaded Systems, NS-3, DoS Simulation
Tools: Git, GitHub Actions, Docker, Unix Shell, Overleaf, Figma, WordPress
Visualization: LaTeX, Beamer, TikZ, Matplotlib, pandas, NumPy