

Fuwad Hasan

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EDUCATION

- **North South University** Dhaka, Bangladesh
Bachelor of Science in Computer Science and Engineering; CGPA: 3.55/4.00 Jan. 2022 – Present

EXPERIENCE

- **NSU Problem Solvers** Dhaka
Instructor Jan 2025 - Present
 - **Competitive Programming:** Taught advanced data structures and algorithms, and problem-solving techniques to the rated members of NSU Problem Solvers.

PROJECTS

- **Pitless Bucket:** Python — FastAPI — TypeScript — Next.js — PostgreSQL — Redis — Kotlin — Docker
Developed a cloud storage aggregator software where users can aggregate their Google Drive, Dropbox, OneDrive etc. cloud storages and access them from a unified platform. Integrated AI agents using Langgraph, used Docker for containerization & easier deployment in the cloud. [GitHub Link](#)
- **Emoji Tools:** Python — Discord.py
Developed a Discord-verified bot for emoji management and deployed on AWS EC2. Implemented a scalable, efficient automatically sharded bot using Python and Discord.py. Used in 5000+ discord servers. [GitHub Link](#)
- **Real Time Docs Editor:** TypeScript — Next.js — TailwindCSS — Clerk — Convex
Built a full-stack web app with real-time editor collaboration feature using Next.js, TypeScript, and TailwindCSS. Used Clerk for authentication and Convex for low-latency database. [GitHub Link](#)
- **Physics Chatbot:** Python — Langchain — Streamlit — ChromaDB — RAG — LLM — Ollama
Made a Retrieval-Augmented Generation (RAG) based AI LLM Chatbot that specializes in helping grade 9–10 students with their physics textbook. [GitHub Link](#)
- **VM-UNet-ASPP-Grain-Segmentation:** Vision Mamba — U-Net — ASPP — SAM — LoRA
Contributed to a project using an enhanced VM-UNet architecture with ASPP to improve segmentation accuracy of grain structures in stainless steel for quality control and material characterization [GitHub Link](#)

PROGRAMMING SKILLS

- **Languages:** C, C++, Java, Kotlin, Python, JavaScript, TypeScript, SQL, HTML, CSS
- **Libraries/Frameworks:** PyTorch, TensorFlow, NumPy, Scikit-learn, Pandas, Matplotlib, FastAPI, Langchain, Langgraph, Pytest, Next.js
- **Database Management Systems:** MySQL, PostgreSQL, Redis, MongoDB, Convex, ChromaDB
- **Tools/Technologies:** Linux, Git, Github, Android Studio, Docker

PROGRAMMING ACHIEVEMENTS

- **Team Achievements:**
 - **18th** out of 150 teams — UIU IUPC 2025 (Team: *NSU_FiNaL_sTraw*) 2025
 - **72nd** out of 160 teams — KUET IUPC 2025 (Team: *NSU_NFT*) 2025
 - **88th** out of 196 teams — JU NCPC (Team: *NSU_HalfHeaven*) 2024
 - **154th** out of 300 teams — 2024 ICPC Asia Dhaka Regional Contest (Team: *NSU_CyanCubed*) 2024
- **Individual Achievements:**
 - **[Global]** Specialist (max rating: 1564) in Codeforces
 - **[Global]** 4* (max rating: 1820) in CodeChef
 - **[NSU] Champion** in junior category — Intra NSU Programming contest, 2023