

Shovon Sharma

📍 Khulna, Bangladesh 🌐 GitHub ☎ +880-1300346877
✉ sharmashovon875@gmail.com 🔗 LinkedIn 📧 Medium 🌐 Portfolio

Technical Skills

Languages: C/C++, Python, Go, Bash, JavaScript, Solidity

Databases: MySQL, PostgreSQL, SQLite, Oracle SQL, ChromaDB

Frameworks/Tools: PyTorch, JAX/Flax, FastAPI, Docker, Git, Linux, Blockchain, Hugging Face, Unsloth AI

Projects

DMoEBERT – Sparse Mixture-of-Experts for NLI (Thesis) [🔗](#)

- Designed a scalable **sparse Mixture-of-Experts encoder-only model** for Natural Language Inference.
- Trained 23M and 45M parameter models from scratch under resource limits.
- Achieved **84% precision on SNLI**, outperforming BERT-base (LoRA PEFT) with **13.5× fewer FLOPs** and **5.3× lower memory**.

Stable Diffusion from Scratch [🔗](#)

- Implemented a full **Denoising Diffusion Probabilistic Model (DDPM)** in PyTorch.
- Built **attention-enhanced U-Net** and **Variational Autoencoder (VAE)** for latent-space compression.
- Optimized training using a two-stage approach for stability and low memory use.

Course Finder – AI-Powered Recommendation System [🔗](#)

- Built recommendation engine using **Sentence Transformers + ChromaDB**.
- Integrated FastAPI backend, Streamlit UI, and Dockerized deployment.
- Designed a **multi-factor ranking system** (similarity, rating, difficulty).

Sharma's Drive – Decentralized File Storage Platform [🔗](#)

- Developed a **blockchain-based file sharing** (e.g., audio, image, video, zip) platform using Solidity smart contracts.
- Integrated Node.js backend and React frontend for secure upload and retrieval.

Task Management API (FastAPI + PostgreSQL) [🔗](#)

- Designed RESTful API with full CRUD functionality.
- Built using FastAPI, PostgreSQL, and Docker for containerized deployment.

Chomp Chase – AI Maze Race Game [🔗](#)

- Generated random mazes via **DFS with backtracking**.
- Implemented AI opponent using the **A* pathfinding algorithm**.

Education

B.Sc. in Computer Science and Engineering

Khulna University of Engineering & Technology (KUET)

2020–2025

Higher Secondary Certificate (HSC)

Govt. M.M. City College, Khulna — *Board Merit Position: 23*

2017–2019

Technical Writing

- Contributor on Medium — write technical deep-dives on AI, systems, and programming.
- **Notable Articles:**
 - The No-Nonsense Guide to Attention, LinearAttention, GPU Memory & FlashAttention : Math to Code [🔗](#)
 - Understanding Vision Transformers from First Principles : Theory & Code [🔗](#)
 - The Math Behind Stable Diffusion [🔗](#)
 - Let's Take a SQL Adventure: From Theory to LeetCode [🔗](#)
 - Let's Explore Go: From Hello World to Data Structures [🔗](#)
 - *Let me teach u Bash : From 'hello world' to User Management* [🔗](#)