# Shovon Sharma

# **Technical Skills**

**Languages:** C/C++, Python, Go, Bash

Databases: MySQL, Oracle SQL, SQLite, PostgreSQL

Frameworks/Technologies: PyTorch, JAX/Flax, Blockchain, Laravel, React

Tools/Platforms: Git, Docker, Linux, Node.js

#### **Projects**

#### DMoEBERT for Natural Language Inference (Thesis)

Designed and deployed a scalable encoder-only model with Weight compression, Dynamic-Tanh activations and Mixture-of-Experts (MoE) layers for NLI; trained 23M and 45M parameter variants from scratch under resource constraints, achieving 84% accuracy on SNLI (benchmarked) and outperforming BERT-base (110M, LoRA PEFT) in model efficiency and resource usage.

# Sharma's Drive – Decentralized File Sharing & Storage Platform with P2P Interacions

Built a blockchain based decentralized file(audio, img, video, zipfile) sharing and storage system using Solidity smart contracts, Node.js backend and React frontend, enabling secure, tamper-proof user uploads and retrievals.

# Sharma's Cache System – a redis clone(Ongoing)

Building a lightweight, in-memory key-value store in Go, inspired by Redis.

### LLaMa3 from scratch

Implemented LLaMa3 architecture from scratch in PyTorch, including RoPE, KV caching, and GQA.

### SpicyMew 🗹

Developed a full-stack food ordering platform using Laravel and MySQL, streamlining user experience with real-time ordering, admin interface and integrated schema management.

# Chomp Chase - AI Maze Race Game 🗹

Built a dynamic maze-solving game in Python, generating unique mazes using DFS with backtracking. Designed an AI opponent using the A\* pathfinding algorithm to locate food — the first to reach it wins.

#### Education

## B.Sc. in Computer Science and Engineering

Khulna University of Engineering & Technology (KUET)

 $Jan\ 2020-Present$ 

2017 - 2019

#### Higher Secondary Certificate (HSC)

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

# Technical Writing

- Contributor on Medium, writing blogs on Linux, Data Structure, Blockchain, and AI.
- Notable articles:
  - The No-Nonsense Guide to Attention, Linear Attention, GPU Memory and Flash Attention: From Math to Code ☑
  - Let's take a sql adventure : From theory to LeetCode 

    ✓
  - − Let me teach u Bash: From 'hello world' to User Management
  - Understanding Vision Transformers from First Principles: Theory and Code
  - The No-Nonsense Guide to Neural Network Normalization (BatchNorm, LayerNorm & RMSNorm): From math to code ☑