Pranjwal Jha

pranjwaljha2005@gmail.com | +91-8595609848 | linkedin/Pranjwal-Jha | github.com/Pranjwal-Jha

Education

Delhi Technological University CGPA - 8.29
Bachelor of Technology in Mathematical and Computing Engineering *Graduation Date - May 2027*

The Air Force School 86%
Senior Secondary *2022*

Technical Skills

Languages: C++, Python, Javascript, MATLAB, Lua, Bash
Machine Learning: PyTorch, Numpy, Pandas, Scikit-Learn, Seaborn, NLP, ,GPT, BERT, GenAI,Reinforment Learning
Databases: SQL, MongoDB
Tools & Systems: Git, FastAPI, Linux, Langchain, LangGraph, Docker, Ollama, MakeFile, Vim
Problem Solving: Data Structures & Algorithms *leetcode.com/u/thesheshadesgucci*

Projects

AI-Powered Interview Assistant | *github/AI-Interview-Assistant*

- Developed a conversational AI interviewer using Python with LangGraph and Google Gemini to create a stateful, multi-turn interview workflow, from resume analysis and dynamic question generation to evaluating responses.
- Engineered a backend with Flask, featuring REST APIs for real-time speech-to-text transcription via the Deepgram API and a custom LangChain tool to fetch and present LeetCode coding challenges based on interview context.
- Implemented an automated code evaluation system by programmatically submitting solutions to LeetCode's platform, enabling the AI to assign problems and verify the correctness of candidate-submitted code.
- Designed an interactive frontend using Next.js and React, which includes in-browser audio recording, a real-time chat interface for the interview, and an integrated Monaco code editor for live coding assessments.

C++ Neural Network from Scratch | *github/neural-net-cpp*

- Developed a complete neural network framework in C++ from first principles, without the use of any external machine learning libraries like TensorFlow or PyTorch.
- Implemented a custom `Matrix` class to handle all core linear algebra operations, including matrix multiplication, transposition, and element-wise products, which form the foundation of network computations.
- Engineered the backpropagation algorithm with gradient descent to train the network, calculating gradients for weights and biases by applying the chain rule through each layer.
- Successfully trained and validated the network by solving the non-linear XOR problem, demonstrating a comprehensive understanding of forward propagation, loss functions, and optimization.

Hackathons

Smart India Hackathons (SIH) October 2024

- Participated in the College-level Smart India Hackathons, focusing on AI-powered traffic management
- System using OpenCV and Python
- Implemented car detection using OpenCV and optimized traffic light timings based on real-time traffic density.
- Simulated the system in Pygame to visualize its effectiveness.

Certifications

- Getting Started with Deep Learning - NVIDIA
- Introduction to Neural Networks and PyTorch

Relevant Coursework

- Data Structures and Algorithms, C Programming, Operating Systems, Python Programming, Discrete Structures, Linear Algebra, MATLAB, Probability & Statistics, Scientific Computing