





Vinay R Jumani

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Objective

Aspiring AI Hardware and Deep Learning Engineer passionate about building intelligent systems, solving real-world problems, and contributing to impactful technology.

Education








BITS Pilani, Goa Campus

B.E. in Electronics and Instrumentation — CGPA: 7.6/10

Goa, India

Expected May 2028

Projects

- **Transformer from scratch**  GitHub *July 2024*
Implemented the Transformer architecture from scratch in Pytorch
- **ResNet Project**  GitHub *March 2024*
Trained a ResNet-18 model on the CIFAR-10 dataset using PyTorch. Achieved 90% accuracy by implementing data augmentation, learning rate scheduling, and mixed precision training.
- **RAG Chatbot**  GitHub *May 2024*
This project implements a simple yet functional Retrieval Augmented Generation (RAG) chatbot. The chatbot answers user queries based on the content of a provided research paper (PDF format). It combines text retrieval and large language models (LLMs) to generate accurate and contextually relevant responses.
- **OpenCV and MediaPipe**  GitHub *April 2024*
Built a hand detection and a basic game using OpenCV and MediaPipe
- **CoreML (SAIDL Spring Assignment)**  GitHub *Jan-March 2024*
Worked on implementing the APL framework by adjusting noise levels and comparing the APL with other frameworks.
- **Multi-Modality (SAIDL Spring Assignment)**  GitHub *Jan-March 2024*
Implemented Graph Neural Networks (GNNs) for multi-modality learning.
- **Miscellaneous**  Instructables (profile)
Basic electronics projects from grade 9, including a self-watering plant system. Also worked extensively with 3D printers (FDM).
- **In Progress:**
 - **Mamba Implementation** - Working on implementing Mamba architecture in Pytorch in a research oriented project.
 - **FD-Lora** - Working on implementing Fast Dynamic Lora using the PEFT library.
 - **GPU direct** - Working on a research project involving BAM, related to GPU data storage/transfer
 - **AI Hardware Optimization SaaS Tool** – lightweight benchmarking + model optimization platform
 - **Startup** - In its very early stage, working on two ideas related to FinTech.

Skills

- **Programming:** Python, C/C++, JavaScript, Solidity (blockchain smart contract)
- **Tools/Frameworks:** PyTorch, CUDA, TensorFlow, Git, Fusion 360, OpenRocket, CrewAI, OpenCV, MediaPipe, MERN Stack
- **Hardware:** Raspberry Pi, Arduino, Sensors, Microcontrollers, 3D Printing
- **Traits:** Extremely fast learner and having deep technical skills.

Achievements / Certifications

- Deep Learning Specialization by Andrew Ng – Coursera ([link](#))
- FIDE Chess Rating: 1852 – Represented India at National/International level multiple times and rated 2700 on Lichess ([bullet link](#))
- JEE Advanced 2024: Rank 10,452 (CRL) – Top 5% of candidates
- JEE Mains 2024: Rank 18,021 (CRL) – Top 2% of candidates
- Indian Aptitude Test (IAT-IISER/IISc) 2024: Rank 275 (CRL) - Top 0.6% of candidates
- CBSE Board: Class 10 – 97%, Class 12 – 97%

Extra-Curricular Activities

- Selected as the Campus ambassador for Perplexity
- Core Member – Electronics and Robotics Club, SEDS Celestia Simulations (CUDA), Developer's Society Syscal (GPU programming), Center for Entrepreneurial Leadership (CEL), BITS Goa
- Formed a developers community in college with over 300+ community members. Involves verticals like AgenticAI, GenAI, DL, EdgeAI, OpenSource and Vibe Coding
- Sports – Professional Chess Player