

TUSHAR MISHRA

◇ Bhopal, India

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OBJECTIVE

CS undergrad who just wants to learn and build things, i know a lot of things and what i don't know i can learn quickly. Exploring ml deeply by reading books, implementing papers and building projects. Eager to contribute to innovative projects and learn from industry leaders through opportunity.

EDUCATION

B.Tech in Computer Science, Bhabha eng. research institute, Bhopal 2023 - 2027
SGPA : 8.21/10 MP, India

SKILLS

Programming Languages	TypeScript, Python, HTML, CSS
Frameworks/Libraries	Pytorch, Keras, Tensorflow, Hugging Face, Scikit-learn, Next.js, Tailwind
Databases	PostgreSQL, MongoDB, Redis, MySQL
Dev Tools/Platforms	Git/Github, Docker, WandB Restful APIs, Fast APIs, Colab/Kaggle, Figma, Manim
Agentic/VectorDB	LangChain, LangGraph, Chroma, PineCone

PROJECTS/OPEN-SOURCE

Image processor - Multiple domains in one ([Demo](#), [Github](#)) *CLIP ,Pinecone, YOLOv9, Flan-T5, Pytorch*

- Developed an AI-powered RAG-based project that covers domains like **text generation, image captioning, segmentation, rag and class detection**.
- **CLIP** for embedding image and caption, **PINECONE** to store embeddings, **FLAN-T5** for generating captions, **YOLOv9m** for class detection and box prediction.
- Developed a **minimal responsive UI** with React, Typescript and Tailwind and Fast API in backend.

Orbit AI - Exoplanet detection ([Demo](#), [Github](#)) *Voting Classifier, CatBoost, NextJs, TypeScript, Pytorch*

- Web-based platform built in nasa space challenge designed to accelerate the **discovery and validation of exoplanets** using machine learning.
- Worked on Kepler and Tess object of interest dataset, implementing **Preprocessing, Feature eng. and Model Architecture**.

Tiny projects ([Github](#)) *Gists, TensorFlow, Pytorch*

- Built GPT, Llama and MOE Model from scratch with **all novel components** and gpt was trained on 200M tokens of FineWeb dataset. ([Github](#))
- Built English to Spanish Translator using **LSTM and encoder decoder architecture with attention** built from scratch.
- IMDB review sentiment analysis, time series forecasting on chicago transit data. Implemented cross entropy, value based methods and now exploring DQN for atari envs. ([Github](#))

EXTRA-CURRICULAR ACTIVITIES

- Actively write [blog posts](#) and Twitter posts ([X](#)) to help people who're starting out in ml and also sharing my journey.

LEADERSHIP

- Team Leader of the [Nasa space challenge](#), in 2 days we have built Orbit-AI, it was full of challenges and was very exhaustive but rewarding experience, i wrote a [blog](#) on that!