

# TUSHAR MISHRA

◇ Bhopal, India

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## OBJECTIVE

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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

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**B.Tech in Computer Science**, Bhabha eng. research institute, Bhopal 2023 - 2027  
SGPA : 8.29/10 MP, India

## SKILLS

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

## PROJECTS/OPEN-SOURCE

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**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**.
- Debugged **very imp issue** in model pipeline by thoroughly going through the model output, backend and frontend codebase.

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

- Built English to Spanish Translator using **LSTM and encoder decoder architecture with attention** built from scratch.
- Built GPT Model from scratch with **all novel components** and fine tuned on spam classification and also instruction fine tuning. Very soon will train on fineweb dataset.
- IMDB review sentiment analysis, implemented policy gradient rl model for pole balancing and time series forecasting on chicago transit data.

## EXTRA-CURRICULAR ACTIVITIES

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

## LEADERSHIP

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- 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!