



HARSH PARIMAL POPAT

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DOB: May 08, 2003

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Gujarat, 361350



Education

Indraprastha Institute Of Information And Technology

B.Tech - CSE
2021 - Present

CGPA: 8.2
(till VIth Semester)

Indian School Muscat, Muscat, Oman

CBSE - AISSCE
2019 - 2021

Percentage:
91.4%

Skills

Expertise Area Data Structures and Algorithm, Machine Learning, Cybersecurity

Programming Language Python, C++, C, Java, HTML/CSS, JavaScript

Tools and Technologies **Development:** FastAPI, NodeJS, Django, MySQL, SQLAlchemy, ReactJS
Git, Authzed, Google Cloud, **ML:** Tensorflow, Pytorch, Scikit-learn,
Pandas, Numpy, **Collaboration:** Figma, Slack, Jira

Technical Electives Natural Language Processing, Computer Vision, Data Science, Computer Networks, Foundation of Computer Security, Operating Systems, Analysis and Design of Algorithms, Database Management System.

Work Experience

Backend Developer Intern at [Adden.AI](#) - Industrial (May, 24 - July, 24)

Tech Stack: Python, FastAPI, SQLAlchemy, PostgreSQL, Git, Google Cloud, Pytorch, Google Ads API.

- **Spearheaded** the design and development of a LLM backend system - **Smart Audience AI** for audience prediction and cohort creation, for **optimizing and improving marketing strategies**.
- Developed a **platform-independent Performance AI** solution for seamless integration with **any ad hosting platform**, and **enhanced ML models** for campaign budget rebalancing, significantly **reducing cost-per-response (CPR) by 30%**.

Undergraduate Research Intern at MIDAS - Research (Jan, 24 - Present)

Guide: Dr Raiv Ratn Shah

- **Developed** an **end-to-end voice chatbot** which transcribed audio, generated embeddings with **LangChain**, stored in ChromaDB, processed inquiries and converted back to speech for **seamless user interaction**.
- **Introduced** and created **GeoVQA, a multimodal math dataset**, to enhance LLMs capabilities in geometry. Fine-tuned LLaVA models, achieving **superior performance** over GPT-4 on the PGPS9K benchmark.

- Working on developing a framework integrating **Knowledge Graphs with LLMs** to improve reasoning and accuracy, evaluating reasoning prompting techniques with (CoT, ToT, BoT) and demonstrating **superior accuracy and reliability over traditional methods with reduced hallucinations.**

Publications

Avinash Anand, Raj Jaiswal, **Harsh Popat**, Harshil Mital etal. (2024). *GeoVQA: A Comprehensive Multimodal Geometry solution for Secondary Education - IEEE MIPR*

Projects

Mood-Based Song Classifier and Recommender System [\[LINK\]](#)

(Nov, 23)

Guide: Dr Jainendra Shukla

Team Size-4

Tech Stack: Python, Pytorch, Scikit-learn, NumPy, Pandas, Spotify API

- Using user moods from listening history and applying machine learning, achieving an accuracy of **86.3%** in classifying mood with the **XGBoost model**. Implemented a **novel recommendation algorithm** to provide personalized music suggestions.
- Recognized as one of the **best ML projects of the year.**

Property Rental/Sale Website - Secure [\[LINK\]](#)

(Sept, 23)

Guide: Dr Arun Balaji Buduru

Team Size-4

Tech Stack: ReactJS, NodeJS, Git, PostgreSQL, Figma.

Developed a **secure web application** for property transactions with distinct buyer and seller interfaces. Implemented a **robust contract verification** mechanism and thorough security validation.

Linux/UNIX Shell - Harsh shell [\[Link\]](#)

(Nov, 22)

Guide: Dr. Arani Bhattacharya

Tech Stack: Artix Linux, C language Operating Systems.

- Created a custom **LINUX shell using C language.**
- Implementing **3 internal commands** and **5 external commands** called using fork and exec() ex : ls, cd, mkdir, rm, date with each command having 2 flags.

Positions of Responsibility

- **Co-Founder and Co-ordinator** of International Relation Council IIIT Delhi.
- **Captain** of the School **Volleyball team** for **2** years and **won gold** 2 consecutive years.
- **Student Council** in High School, **House Captain** during Primary School.

Awards and Achievements

- Received **Trinity College Exam** for Plectrum Guitar Upto 5th Grade and Music Theory 2nd Grade, Awarded Distinction in all.
- Solved over **500** competitive problems in platforms like Codeforces, Leetcodes, etc
- **Courses Completed** : [MLOPs Specialization](#) and [GANs Specialization](#)

Interests and Hobbies

- Gym, Volleyball, Guitar, Books, Movie and Gaming.

Declaration: The above information is correct to the best of my knowledge.

Harsh Parimal Popat

Date: July 07, 2024