

# Harshita Dooja Poojary

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Analytical and passionate technologist with 4.5 years of experience in machine learning, model deployment, backend development, and CI/CD automation, driving scalable solutions across telecom and research-driven AI systems.

## EDUCATION

University of Southern California, Los Angeles

May 2025

Master's in Computer Science (Coursework- *Algorithms, Deep Learning, Artificial Intelligence, Machine Learning, Natural Language Processing*) GPA: 3.78

University of Mumbai, India

Bachelor's in Computer Science Engineering (Coursework- *Software Engineering, Distributed Databases, Web Technologies*) GPA: 3.83

## SKILLS

**Core Programming Languages:** Python

**Other Programming Languages:** JavaScript, C++, Java, HTML/CSS, Scala

**Frameworks & Libraries:** Node.js, AngularJS, PySpark, PyTorch, Keras, TensorFlow, OpenCV, Streamlit

**Databases:** MongoDB, Redis, MySQL, Elasticsearch, Milvus, Hadoop, DynamoDB

**Tools & Platforms:** Docker, Kubernetes, AWS, Azure, Jenkins, Git, JIRA, Postman, Swagger, PowerBI, Tableau, Google Analytics

## WORK EXPERIENCE

Data Science Intern

Jun 2024 – Aug 2024

Zero-True (Remote)

New York, USA

- Conducted exploratory analysis and applied ML/NLP models across 10 diverse client datasets, leveraging Python-based reactive notebooks and dynamic filters to surface actionable signals and enable **real-time visualization through interactive apps built into the notebook**.
- Collaborated with founders to build and deploy 5+ reusable UI components using Vuetify, enhancing end-to-end integration of Python and SQL for seamless application-level analytics in a single notebook pipeline.
- Supported **strategic outreach and community engagement** by co-designing problem statements for a 1000+ participant university **hackathon** and amplifying Zero-True's visibility through targeted content on **Reddit and Medium**.

Student Researcher

Jan 2024 – Aug 2024

University of Southern California

Los Angeles, USA

- Under Prof. Seon Kim, analyzed **object detection and classification models** (YOLOv5/YOLOv8) on 10k Streetview imagery from Google Images and in-house dataset using **data mining** for tent detection and counting, optimizing performance in **noisy urban conditions** using geospatial metadata.
- Executed **geospatial analysis at scale** by coding grid-based segmentation logic to quantify encampment density across **502.7 square miles** of Los Angeles, generating multi-intensity **heatmaps** using latitude-longitude clustering **across five intensity levels**.

AI/ML Engineer

Dec 2021 – Jul 2023

Reliance Jio

Mumbai, India

- Engineered and optimized RetinaFace detection models using **TensorRT FP16** precision on **T4 and A100 GPUs**, reducing face registration time by **40%** and enabling real-time inference at scale for production deployment across Jio's facial recognition systems.
- Built and deployed a **spoof detection model pipeline** by analyzing ResNet32 and CDCN models for depth analysis, achieving **90% spoof classification** accuracy on an in-house video dataset captured across 20+ facilities using **PyTorch**.
- Automated **CI/CD pipelines** for ML systems (Face Recognition, Motion Detection, License Plate Detection) to support **model updates and config deployment** with zero downtime, reducing **rollout time by 50%** and minimizing reliance on DevOps bottlenecks.
- Led **data curation and model evaluation workflows** in collaboration with interns, balancing spoof datasets and establishing reproducibility benchmarks to ensure **robustness of models in production environments**.

Software Engineer

Jun 2019 – Dec 2021

Reliance Jio

Mumbai, India

- As a part of the **world's largest mobile data company**, collaborated with **cross-functional teams** to integrate 250+ newspapers, 150+ live channels, and 800+ magazines across platforms, **scaling content delivery** in 13 languages and increasing the user base by 50%.
- Built **production-ready data pipelines and APIs** using **Python, MongoDB, Redis, and MySQL** to support personalized news recommendations and local content delivery, **enhancing engagement by 20%** for over 100 million users.
- Implemented **A/B testing** for UI interfaces and content delivery to analyze user engagement for Jionews home page.
- Designed and developed a automated tool using **Prometheus, Grafana**, and custom email triggers for server errors, improving API reliability by **20%** and ensuring operational excellence through weekly performance reporting and anomaly detection

Software Engineer

Jan 2019 – Jun 2019

TaksyKraft (Remote)

Hyderabad, India

- Built scalable **data pipelines and visualizations** for **10 large-scale clients** in collaboration with analysts and engineering teams.
- Analyzed customer outreach and broadcasting data using **PySpark-based data processing pipelines with SQL**, improving campaign targeting efficiency and supporting real-time insights for advertising strategy.
- Designed and deployed **APIs** to deliver **real-time engagement predictions** and **ROI metrics**, enabling 10+ broadcasters and advertisers to optimize ad targeting through in-depth data analytics.

## PROJECTS

Unified Semantic Space for Multimodal Retrieval (PyTorch, Python, VectorDB)

- Analyzed multimodal LLMs, including **LLama-3**, to answer questions over frames for MIT videos and using **LangDB** Vector Databases to store frame embeddings and retrieve user queries.
- Implementing a user interface using **Streamlit** to integrate ML models, enabling users to upload videos and query the system interactively.

Analyzing NLP techniques on Low-Resource Languages(PyTorch)

- Conducted **idiom classification** in the low-resource **Konkani** language using BERT-based transformers, investigating performance-preserving **attention head pruning**.

Comparison of Model Performance with Knowledge Distillation and Quantization (PyTorch, Python)

- Fine-tuned LLama-3 model** with 4-bit quantization using **logit distillation** with LoRa (Low-Rank Adaptation).
- Computed benchmark against **GSM8k dataset with 8-shot learning** to analyze the performance against the original model with 8B parameters.