Ramsha Khan

Mumbai, India | khanramsha302020@gmail.com | 7304894689 | khan-ramsha.github.io

linkedin.com/in/kramsha | github.com/Khan-Ramsha

About

A final year bachelor's student with a strong interest in advancing machine learning. My studies focuses on foundational topics spanning **machine learning**, **optimization**, **multilingual NLP**, and **reinforcement learning**. I have been focusing on **language modeling** and efficient **post-training techniques** including **policy optimization** algorithms.

My aim is to build **safe** and **explainable** intelligent systems that understand and interact effectively with complex environments.

Education

University of Mumbai, B.E in Computer Engineering   July 2023 – May 2026
- CGPA: 9.0/10.0
- **Coursework:** Machine Learning, Natural Language Processing, Big Data Analytics, Quantitative Analysis.

Technical Diploma in Computer Engineering   Aug 2020 – June 2023
- CGPA: 9.1/10.0
- **Coursework:** Foundations of Programming, Operating System, Computer Networks.

Experience

Data Analytics Intern, PrepInsta Technologies - Remote   Jan 2024 – Apr 2024
- Engineered data preprocessing pipeline for 8+ datasets using Python and SQL, reducing data inconsistencies by 90% and standardizing analysis-ready datasets.
- Performed in-depth exploratory data analysis to identify key trends and patterns that lead to actionable business insights.
- Recreated World Bank data visualization, following Sir Hans Rosling's style, showcasing data storytelling expertise.
- Developed an interactive Air Quality Analysis dashboard using Tableau, incorporating dynamic filters and diverse visualizations for comprehensive data storytelling.   View Dashboard

Projects

FinetuneX   github FinetuneX
- Built FinetuneX from scratch, a modular framework for fine-tuning LLMs with custom architecture components following model technical reports.
- Implemented post-training algorithm (Supervised Fine-Tuning) with support for multiple model families (Qwen2.5 and LLama) and optimized training techniques.
- Developed a user-facing platform that allows custom dataset upload, training configuration selection, and base vs. fine-tuned model comparison.
- Designed the framework to support multiple model architectures and future extensions for various fine-tuning capabilities (LoRA, QLoRA) and instruction tuning based on human preferences for research-oriented experimentation.
- Tools used: Pytorch, Gradio.

FasalGuru   github FasalGuru
- Engineered an AI-powered agricultural assistant that delivers pest detection, irrigation guidance, fertilizer recommendations, and disease prevention tailored to real-time weather conditions.
- Fine-tuned and deployed a ResNet18 model for classifying 22 crop diseases, integrated with Ollama-hosted LLMs to generate dynamic prevention plans using live weather data.

- Trained Machine Learning models with Scikit-learn for irrigation and fertilizer prediction, enhancing precision farming capabilities.
- Enabled multilingual support in 200+ languages, expanding accessibility for diverse farming communities.
- Tools used: Pytorch, HuggingFace, Machine Learning, Ollama

Achievements

- Led team to third place in MegaHack, a national-level hackathon at SJCEM, achieving a podium finish among 80+ teams.
- Secured first place among 100+ participants in the Technical Quiz, demonstrating strong problem solving and technical expertise.
- Earned Runner-Up in Code-a-thon, a competitive programming contest with 100+ participants, showcasing coding proficiency.
- Finalist in Technothon, an inter-college hackathon that demonstrates technical innovation and collaboration under tight deadlines.

Position of Responsibility

- As a Core Technical Member of Codecell at Rizvi College of Engineering, actively collaborated with the team to coordinate and improve technical events, workshops, and hackathons, fostering a technology-driven culture and driving innovation across the campus.

Technologies

Languages: Python, C++

Framework/Libraries: PyTorch, Tensorflow, Huggingface, scikit-learn, Docker

Technical Skills: Exploratory Data Analysis, Natural Language Processing, Machine Learning, Deep Learning, Reinforcement Learning, Generative AI (LLM, VLM)