


Rashmi Deshpande

Data Scientist

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WORK EXPERIENCE

Data Scientist Engineer

ARThink.ai

08/2023 - Present

- Developed Facial Recognition in Attendance Management : Built an attendance system using facial recognition, incorporating video-to-video comparison to accurately detect users under varying facial expressions, lighting conditions, and angles.
- Finetuned Llama for Fitness Application : Customized the Llama model for a fitness-focused application, ensuring domain-specific accuracy in handling user inquiries and responses.
- Finetuned Vision Language Models : Implemented finetuning of VLMs on custom datasets, utilizing quantization and Low-Rank Adaptation (LoRA) to optimize performance.
- Developed Multilingual Speech Recognition and Translation Pipelines : Designed and deployed a robust ASR platform for processing multilingual STT in Indian languages. This expanded linguistic coverage and enhanced accessibility for diverse user demographics, facilitating seamless communication across multiple languages.
- Implemented End-to-End Virtual Assistant Pipeline : Built a pipeline for a virtual assistant, integrating STT, RAG, and TTS, streamlining customer interaction processes.
- Developed AI Systems and APIs : Spearheaded the development of a liveliness detection API, an audio chatbot, and an Optical Character Recognition (OCR) system, while gaining proficiency in Flask and Postman for API testing and deployment.
- Organized Company-Wide AI Knowledge Sharing Sessions.
- Led Trials and Implementations of AI Tools.

PERSONAL PROJECTS

Information Extraction & Surveillance in Biomed Industry

- Leveraged LLMs and libraries for extracting and structuring biomedical data from PubMed articles, enhancing NER and relationship establishment.
- Implemented a robust pipeline ensuring efficient data processing and visualization for biomedical research.
- Designed an intuitive dashboard with advanced search, keyword analysis, entity linking, and trend visualization features, significantly improving research efficiency and market awareness.

Analysis of Tourists in Maharashtra

- Analyzed travel patterns of tourists visiting Maharashtra, India.
- Utilized data on tourists' age, sex, purpose of visit, nationality, etc.
- Identified key tourist destinations, that could result in a 15% increase in tourist footfall.

Firebrand Particles

- Implemented CNNs to predict the shape and size of firebrand particles.
- Employed data augmentation for regularization for predicting the shapes.
- Explored and plotted saliency maps, Grad-CAM maps for error analysis in the predictions.
- Achieved 85% accuracy in predicting firebrand shapes, aiding fire safety research.

The Higgs Boson Particle

- Improved the selection region procedure to predict the presence of the Higgs Boson particle.
- Utilized data on particle properties and applied a formal objective function.
- Increased the median significance (AMS) by 20%, advancing particle physics research.

EDUCATION

Bachelor of Engineering, Electrical Engineering

Savitribai Phule Pune University

07/2019 - 07/2023

Distinction, GPA- 8.5/10.0

- Best Outgoing Student 2022-23
- 2nd Runner up – AVINYA IEEE Pune '23 Event

SKILLS

Programming Languages: Python, R and SQL

Data Manipulation: Pandas, NumPy, SpaCy, Excel.

Data Visualization: Matplotlib, Seaborn, ggplot2, Tableau, PowerBI, Bokeh, plotly

Machine Learning/Deep Learning: Scikit-learn, TensorFlow, Keras, OpenCV, LangChain, Llamaindex, Streamlit & OnRender deployments.


Hard Skills: Data Analysis, Statistics, Machine Learning Models, Feature Engineering, Model Evaluation, Natural Language Processing (NLP), Data Cleaning and Preprocessing, Data Mining, Predictive Analytics, Generative AI, LLMs, VLMs, MMLMs, Azure AI Studio, Vertex AI.


Soft Skills: Problem Solving, Teamwork, Adaptability, Attention to Detail, Continuous Learning, Agile Thinking, Curiosity.

CERTIFICATES

Data Science & AI Leaders Program, Univ 

Introduction to Computer Science and Programming using Python, MITx Series 

Google Project Management: Professional Certificate 

Business Foundations Specialization, University of Pennsylvania 

LANGUAGES

Hindi

Full Professional Proficiency

English

Native or Bilingual Proficiency

French

Elementary Proficiency

German

Limited Working Proficiency

INTERESTS

Comedy Shows

Languages

Cooking

Reading

Music