Rohit Sonawane

linkedin.com/in/rohitsonawane10 | (213) 913-7400 | sonawane.rohit251@gmail.com | Los Angeles, California

PROFESSIONAL SUMMARY

Master's student with hands-on experience as a Machine Learning Engineer, specializing in Natural Language Processing (NLP), Deep Learning, and multi-modal Artificial Intelligence, developed scalable solutions for finance, healthcare and legal domains. Delivered impactful projects, including an **NLP pipeline reaching 91% accuracy**, an *unsupervised model detecting 23% erroneous entries,* and a **multi-modal diagnostic system with 92% accuracy**, published researcher in applied Artificial Intelligence

SKILLS

Technical Skills: Numpy, Pandas, Tensorflow, HuggingFace, Keras, FastAI, Scikit-learn, PyTorch, LangChain, Git
Job Specific Skills: LLMs, RAG, Deep Learning, Agentic AI, Transformers, Docker, Kubernetes

WORK EXPERIENCE

CRIF Highmark (part of Orient Technologies)   **Pune, India**
Machine Learning Intern (Intern Consultant)   June 2024 – December 2024
- Developed and built a refined unsupervised clustering model to group customer addresses, allowing better data quality and customer management, allowing banks to identify ~**23% incorrect/duplicate entries.**
- Modelled and deployed an NLP pipeline for transaction classification by analyzing transaction descriptions, resulting in **91% categorization accuracy** and reducing manual efforts completely.

Translab Technologies   **Mumbai, India**
Data Engineering and Analytics Intern   December 2022 – May 2023
- Formulated a data pipeline/framework allowing *100,000+ records* of raw data from various databases to be consolidated into a centralized system for effective processing and analysis.
- Analyzed and predicted growth trends with the Analytics team**,** steering client teams to enhance decision-making, ultimately benefiting *1,000,000+* general consumers.

PROJECTS

DermaVLM: Multi–modal Skin Disease Diagnosis *– as a student in Mumbai*   January 2025 – May 2025
- Prepared a custom database for 20 unique dermatological conditions by combining dermatology datasets (SKINCAP and SCIN) to achieve a **92% classification accuracy** for diverse skin conditions.
- Optimized model efficiency and scalability (ResNet101 CNN and Llama 3.2 11B VLM), lowering inference time by *48%*, improving semantic understanding with medical images by *44%*.
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NyaayAI: RAG-powered Chatbot for Legal Assistance *– as a student in Mumbai*   January 2024 – May 2024
- Collaborated with 2 other peers to design and deploy a RAG-based chatbot, combining *nomic embeddings*, *ChromaDB* and a *fine-tuned LLM* to interpret Indian Law documents with domain-specific accuracy.
- Improved retrieval accuracy and response quality by optimization, attaining a *training loss of 0.0762 with AdamW* while ensuring computational efficiency.

EDUCATION

University of Southern California   May 2027
        Master's in Computer Science (Artificial Intelligence)

SVKM'S NMIMS Mukesh Patel of Technology Management and Engineering, Mumbai   May 2025
        Bachelor of Technology (with Diploma) in Computer Engineering with Distinction   *(GPA: 3.86 / 4.0)*

PUBLICATIONS

Saket Sultania, Rohit Sonawane, Prashasti Kanikar, "*Machine Learning based Wildfire Area Estimation Leveraging Weather Forecast Data,*" International Journal of Information Technology and Computer Science(IJITCS), Vol.17, No.1, pp.1-15, 2025. DOI:10.5815/ijitcs.2025.01.01

- Designed and implemented an advanced wildfire area estimation tool, utilizing AutoGluon to train machine learning models on weather data, reaching a **final RMSE of 1.84 km^2.**