

Vishnu Koraganji

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Professional Summary

MS in Computer Science graduate from Penn State University with specialization in AI/ML, NLP, Gen AI and Agentic systems, with 1-2 years of project based solid foundations in machine learning and hands-on experience deploying end-to-end ML solutions using Python, PyTorch, and TensorFlow. Demonstrated ability to solve complex problems and optimize performance, eager to apply skills in building scalable ML systems and cutting-edge ML projects within a dynamic ecosystem.

Technical Skills

Languages: Python, Java, C, JavaScript, SQL
Machine Learning & Deep Learning: (PyTorch, TensorFlow/Keras, Pandas, Scikit-learn, NLTK, MLFlow, DVC); Classification, Clustering, Regression, Recommender Systems, Information Retrieval, NLP, Computer Vision, Time Series Forecasting, CNN, RNN, YOLO, Ranking and Searching
Gen AI Stack: Transformer models-BERT, GPT, Gemini, Llama, RAG, PEFT (LoRA & QLoRA) - Fine Tuning LLM, Langchain, CrewAI, Hugging Face, Sentiment Transformers, FAISS.
MLOps & Cloud: Docker, MLFlow, DVC, CI/CD, AWS, FastAPI, Git
Databases & Tools: PostgreSQL, Firebase, Ollama, Ngrok, VS Code, Eclipse, ArcGIS.

Projects

- AI Agentic Resume Tailor** (*CrewAI, FastAPI, React, LangChain, Gemini API, Scrapy*) **Mar 2025 - May 2025**
- Developed CrewAI multi-agent system to automate resume tailoring, boosting ATS scores by 15-20% via keyword improvoral
 - Engineered web scraping agent to parse job descriptions from 5+ major job boards (e.g., LinkedIn, Indeed) (95% accuracy), eliminating manual data entry by 75%.
 - Built robust document processing pipeline (PDF, DOCX, LaTeX) ensuring 100% format preservation and generating tailored outputs instantly, deployed with FastAPI supporting workflow and job tracker managing 50+ applications.
- RAG Based QA Bot** (*PyTorch, DistilBERT, FAISS, FastAPI, LangChain, DOM, Ollama, Ngrok*) **Jan 2025 - Apr 2025**
- Engineered a RAG chatbot to perform nuanced Q&A on unstructured text, leveraging the Amazon Reviews 2023 dataset to improve product discovery from (213,593 products).
 - Integrated FT-DistilBERT for sentiment analysis, 89% validation accuracy, and FAISS + MMR for efficient retrieval.
 - Achieved 95% off-topic query rejection and 0.85 cosine similarity for product queries, enhancing response relevance.
 - Deployed the chatbot on an Amazon-like front-end with FastAPI, delivering sentiment-aware responses in 2–3 seconds.
- Skin Cancer Detection System** (*Python, OpenCV, TensorFlow, PyTorch, YOLOv8, NumPy*) **Aug 2024 - Dec 2024**
- Developed a skin cancer detection system using YOLOv8 with a novel SCSCA Attention Module.
 - Integrated a YOLOv8 preprocessing pipeline (artifact removal, CLAHE, color normalization) to boost image quality.
 - Evaluated with the HAM10000 dataset, achieving a 4% mAP@50 improvement over baseline YOLOv8.
 - Enhanced model precision and recall by +8% ensuring uniform, high-quality input data before training.
- Estimation & Analysis of Landslides** (*Python, NumPy, Pandas, HDF5, TensorFlow, ArcGIS*) **Jan 2023 - May 2023**
- Integrated atmospheric (NDMI, water vapor) and geographical (slope) data for landslide prediction.
 - Modeled landslide susceptibility using DEM, NDMI, slope generation, elevation, rainfall, & geological content as input to a U-Net model, achieving 98% accuracy, +3% more than extended model.
 - Proposed new method for estimating landslides & generated a landslide susceptibility map for SR-530 with 93% accuracy.

Experience

- Graduate Assistant | Penn State University, Middletown, PA** **Aug 2023 - May 2025**
- Collaborated with faculty on applied AI research in medical imaging; designed and implemented a integrated pipeline for a YOLO-SCSCA model; demonstrated LLM fine-tuning vs RAG capabilities using SLMs.
 - Mentored and evaluated **10+** undergraduate capstone projects in Software Engineering and Computer Science, advising on Agile/SDLC best practices and project management using UML and use-case diagrams.
 - Assisted in instruction for Data Structures & Algorithms by grading assignments and providing detailed feedback on algorithmic complexity, optimization, and evaluated Unity tasks in Computer Graphics, and refined grading rubrics/syllabi.
- Cloud Architect Intern | AWS (Amazon Web Services), Vijayawada, IND** **Oct 2021 - Dec 2021**
- Achieved foundational skills in provisioning and managing AWS services, including EC2, S3, RDS, and VPC, to establish robust cloud infrastructure reinforcing best practices in system reliability and performance.
 - Optimized resource usage traffic distribution by configuring auto-scaling policies and load balancers.
 - Secured cloud environments through IAM access controls, encryption mechanisms, and CloudWatch monitoring solutions.

Education

- Penn State University** **Aug 2023 – May 2025**
Masters in Computer Science *Middletown, PA*
- VR Siddhartha Engineering College** **Aug 2019 - May 2023**
Bachelors in Computer Science Engineering *Vijayawada, India*