Kurapati Pavankumar

Entry Level AI Engineer

Nellore, Andhrapradesh

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Summary

Enthusiastic and detail-oriented B.Tech graduate in Artificial Intelligence and Data Science with a strong foundation in Machine Learning, Deep Learning, and Generative AI. Proficient in Python, TensorFlow, PyTorch, and NLP techniques, with hands-on experience in building end-to-end AI projects. Familiar with RAG architecture, model fine-tuning, AI Agents and LLM applications. Eager to contribute to innovative AI solutions in a collaborative environment and grow as an AI Engineer.

Education

Jansons Institute of Technology 2021 - 2025

Bachelor of Technology in ***Artificial Intelligence and Data Science*** ***8.18 CGPA***

Experience

Gen AI Internship – Innomatics Research labs Sep 2024 – Nov 2024

- Worked on diverse Generative AI projects, including RAG-based chatbot, AI Code Reviewer, and AI Vision Care. Gained expertise in using and integrating Lang Chain for efficient project development.
- Developed an AI-powered Code Reviewer using Streamlit and Google Gemini API, enabling automated bug detection, code optimization suggestions, and multi-Programming language support.
- Built an AI-powered vision assistance tool to support visually impaired users with scene descriptions, text extraction, and object detection.
- Integrated Google Gemini API, Tesseract OCR, and multilingual text-to-speech functionality.
- Developed a Regex Matcher website using Flask, enabling users to test and validate regular expressions interactively.
- Deployed the application on AWS EC2, ensuring scalability and global accessibility.

Machine Learning Intern – Feynn Labs Feb 2024 – Apr 2024

- Developed and implemented machine learning algorithms for diverse business applications, including a heart disease prediction model and electric vehicle market segmentation analysis.
- Conducted thorough data analysis and preprocessing to prepare datasets for model training and evaluation.
- Collaborated with project teams to refine model performance and optimize predictive accuracy.
- Extended the heart disease prediction project by developing a web application and conducting market segmentation analysis to target specific demographic groups.
- Presented project findings and recommendations to stakeholders, contributing to informed decision-making processes.

Skills

Languages: Python, HTML, CSS
Databases: SQL, Vector Databases
Tools & Libraries: Scikit-Learn, NLTK, Pandas, Numpy, Matplotlib, Seaborn, LangChain, Flask, Power BI, MS-Excel, Power Query, BeautifulSoup, Selenium, Streamlit, Dialogflow, Git, OpenCV, spaCy
Frameworks: Tensorflow, Keras, Pytorch, Bootstrap, Transformers
Cloud Platforms: AWS
Areas: Model Building and Optimization, Fine-tuning, Generative AI, Large Language Model(LLM), RAG (Retrieval-Augmented Generation), Research, Machine Learning, Deep learning, Predictive Analytics, Data Analytics, Statistical Analysis, Natural language Processing(NLP), Web Scraping
Soft Skills: Time management, teamwork, Problem-solving, Attention to detail, Communication, Adaptablilty, Collaboration

Projects

A Self Diagnosis Medical Chatbot | *Python, Llama-3.3-70B, Llama 3.2 Vision, Finetuning, RAG* **Jan 2025 - Mar 2025**

- Developed a multi-module AI chatbot using LLMs and RAG architecture to deliver accurate, real-time responses for medical and wellness queries.
- Designed a Medical Query System and Health Advisory Module using RAG + knowledge base to reduce hallucination in LLM outputs.
- Achieved 86 percent accuracy in the vision-based report analysis module by fine-tuning LLaMA 3.2 Vision 11B on a radiology dataset from Hugging Face, enabling reliable interpretation of medical images.
- Integrated multi-language support with voice (speech-to-text and text-to-speech) for enhanced user interaction and accessibility.

ScholarAI – Research Agent | *Python, Streamlit, Llama-3.3-70B, ArXiv API, Google Scholar API, AutoGen* **Feb 2025**

- Developed an Agentic AI system using autonomous LLM-based agents for research paper summarization and evaluation.
- Integrated ArXiv and Google Scholar APIs to fetch relevant papers based on user queries.
- Implemented multi-agent collaboration: one agent for summarization and another for analyzing advantages disadvantages.
- Utilized Groq's Llama-3.3-70B model for AI-driven paper analysis, ensuring concise and structured insights.

AI-Powered Vision Assistance | *Streamlit, PyTorch, Tesseract, Google Generative AI, torch* **Nov 2024**

- Developed an AI-based vision assistance application to help visually impaired users by describing scenes, extracting text, and detecting objects from uploaded images.
- Integrated Google Generative AI for personalized task assistance and scene description, enhancing user accessibility.
- Leveraged Tesseract OCR for text extraction and PyTorch for object detection, providing accurate results.
- Enabled multilingual support and audio feedback for enhanced accessibility using Google Translator and Text-to-Speech.

ATS Analyzer and Cold Email Generator | *LangChain, pdfplumber, ChromaDB* **Feb 2024 - Mar 2024**

- Developed a Streamlit-based AI tool integrating an ATS Analyzer and Cold Email Generator.
- Integrated Google Gemini to assess resumes against job descriptions, providing feedback on strengths, weaknesses, missing keywords, and a match percentage.
- Implemented PDF processing capabilities to extract and analyze resume content seamlessly.
- Utilized Groq's LLaMA 3.3 to generate personalized cold emails for job applications and networking.