Rapelly Sai Vinil

Hyderabad, India.

+91 -9381468568 rapellysaivinil@gmail.com LinkedIn GitHub Portfolio

Machine Learning & Generative AI Enthusiast | LLMs · LangChain · Deep Learning · NLP

Dedicated and innovative Computer Science Engineer with a strong foundation in automation engineering, artificial intelligence, and machine learning. Proven expertise in developing advanced AI-driven tools, enhancing user experiences through optimized workflows, and contributing to cutting-edge projects. Winner of multiple hackathons, adept at leveraging technologies like GPT, LangChain, and TensorFlow to drive impactful solutions.

WORK EXPERIENCE

AI/ML engineer | *Machine Learning,Deep Learning,NLP*

May 2025 – Present

Remote

WebMobi360

- Banking Service – Customer Churn Prediction: Designed and deployed a deep learning-based Artificial Neural Network (ANN) to predict customer churn, enhancing retention strategy and business insights.
- AI Resume Builder: Developed an AI-powered resume builder using GPT-based NLP models to generate personalized, dynamic resumes with real-time content adaptation.
- Cross-Domain Collaboration: Worked with teams across Machine Learning, Web Development, and Product Design to integrate models into user-centric platforms, ensuring smooth end-to-end deployment and impact.

Machine Learning Engineer | *Machine Learning, Computer Vision, Training Models, Data science*

March 2025 – May 2025

Remote

SwiftSafe

- Led the development of an AI-powered anomaly detection system leveraging Self-Organizing Maps (SOM) and deep learning, integrating GPT-based LLMs for contextual log analysis to enhance threat intelligence and reduce response latency in real-time network monitoring.
- Collaborated with the cybersecurity team to design a secure system logging and evaluation framework powered by LLMs, enabling automated analysis of access patterns, anomaly detection, and policy compliance validation across critical infrastructure.

PROJECTS

Smart Farming ML Suite | *Python, Flask, ML/DL (RF, XGBoost, SVM, CNN, LSTM)* | **LINK**

Jan 2025

- Developed an end-to-end system with 5 models (Soil, Crop, Fertilizer, Irrigation, Price) using EDA, feature selection, and hyperparameter tuning; achieved 85–93% accuracy.
- Built a Flask-based API with an automated model selector pipeline and integrated an e-commerce UI to demonstrate practical application.
- Evaluated using RMSE, F1, Precision-Recall, and AUC-ROC.

Bank Fraud Detection via SOM | *Deep Learning, SOM, Unsupervised Learning* | **LINK**

Apr 2025 – May 2025

- Built an unsupervised model using Self-Organizing Maps to detect anomalous banking behavior from high-dimensional data.
- Visualized suspicious clusters via neuron activation maps, aiding explainability and early fraud identification.
- Enabled anomaly detection without labeled data.

NLPulse: Sentiment Detection Engine | *Python, NLP, ML (BoW, Logistic Regression)* | **LINK**

Feb 2025 – March 2025

- Preprocessed text (tokenization, stopword removal) and applied Bag-of-Words for feature extraction; handled class imbalance.
- Achieved 89% test accuracy using optimized traditional ML models.
- Applied EDA for insight extraction.

RESEARCH PROJECTS

Fine-tuning LLMs by external data in form of knowledge graphs | **LINK**

May 2025 -Present

- Integrated external domain-specific knowledge graphs with Large Language Models (LLMs) to enhance contextual understanding and factual accuracy.
- Designed and implemented pipelines for seamless knowledge graph data ingestion using frameworks such as Neo4j.
- Fine-tuned transformer-based models, leveraging advanced techniques to bridge the semantic gap between structured knowledge and natural language.
- Improved the contextual reasoning and inference capabilities of LLMs, enabling their application in complex industries such as healthcare.

SKILLS

- **Programming Languages:** Python, C/C++, JavaScript, HTML/CSS
- **Libraries/Frameworks:** Scikit-learn, Pandas, NumPy, XGBoost, TensorFlow, Keras, PyTorch, LangChain, Hugging Face Transformers
- **Deep Learning:** ANN, CNN, RNN, LSTM, Autoencoders, SOM
- **Machine Learning & NLP:** Supervised, Unsupervised & Reinforcement Learning, Text Preprocessing, BoW,NLTK, DNLP (Deep NLP), RAG, spaCy
- **LLM & Generative AI:** Prompt Engineering (Zero-shot, Few-shot, CoT), Fine-tuning (LoRA, PEFT), RAG Pipelines, AI Agents, Multimodal Generation, Agentic AI, ChromaDB ,Pinecone
- **Tools & Platforms:** Git, GitHub, AWS-BeanStalk, Linux, Jira, OpenAI API, Hugging Face, Pinecone, FAISS, Gradio
- **Languages:** English (Professional), Hindi (Conversational), Telugu (Native)

EDUCATION

IIIT KOTA — 2023 – 2027
Bachelor of Technology - Computer Science and Engineering — Kota, Rajasthan

Narayana Junior College — 2020 – 2022
TSBIE - Mathematics, Physics, and Chemistry — Hyderabad, Telangana

CERTIFICATES

Machine Learning: SuperDataScience Team, Udemy
Deep Learning: Ligiency Team, Udemy
LLM and GenAI: Ligiency Team, Udemy
Dynamic Programming: Algo University

POSITIONS OF RESPONSIBILITY

- Team Lead in multiple hackathons, managing collaboration and technical development across ML and web domains.
- Project Lead for a smart farming research project, integrating 5 ML models into a full-stack solution with real-world applicability.

ACHIEVEMENTS

Winner – Dynamic Programming & Backtracking Competition | **LINK** — May 2025
AlgoUniversity, May 2025

- Secured top position by successfully completing all 7 days of the DP & Backtracking Challenge
- Demonstrated advanced problem-solving using dynamic programming and backtracking techniques