

Surya Vardhan Reddy Puchalapalli

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PROFESSIONAL EXPERIENCE

ReVenture Systems

Lead AI & Automation Engineer

Remote, USA

Jun 2025 – Present

- Led end to end design of AI powered automation workflows aligned with client use cases, delivering iterative improvements with clear operational impact.
- Engineered scalable n8n based automation systems integrating APIs and LLMs, reducing manual effort by over 80%.
- Designed and implemented LangChain based RAG systems using OpenAI and vector databases to extract accurate, context aware answers from contracts and reports.
- Led testing and deployment of production ready workflows with cross functional teams, ensuring reliable performance and successful client adoption.

University of Houston

Data Analyst (IT Operations)

Houston, TX

Aug 2023 – Jan 2026

- Developed Python automation scripts to streamline weekly data collection from 3+ systems, saving 3 hours per week previously spent on manual Excel consolidation.
- Consolidated WiFi usage and signal data for 6,500+ access points into a single dataset, accelerating diagnosis of low performance zones across campus.
- Integrated Excel with Power BI to enable auto refreshing dashboards, reducing weekly reporting preparation from 3–4 hours to under 5 minutes.
- Improved WiFi coverage by 20% by identifying poor signal zones and supporting infrastructure upgrades across 10+ buildings.
- Analysed departmental expenditures and created Excel and Power BI dashboards for the NSM Department of Chemistry, improving budget visibility and audit workflows.

SKILLS

Programming & Databases: Python, R, SQL

Libraries & Frameworks: Scikit learn, NumPy, Pandas, TensorFlow, PyTorch, Keras, OpenCV

GenAI & LLMs: LangChain, OpenAI, Vector Databases, Prompt Engineering, RAG, Semantic Search, Embeddings, AI Agent Design

Visualization & BI: Tableau, Power BI, Streamlit, Matplotlib, Seaborn, SHAP

Platforms & Tools: n8n, FastAPI, GitHub, Jupyter Notebook, Google Colab, MS Excel

Cloud & MLOps (familiar): AWS, Azure, Docker, CI/CD pipelines, Agile methodologies, Data Modeling, ETL/ELT

PROJECTS

Financial Risk & Customer Analytics Platform

Python, XGBoost, Scikit learn, Streamlit, Power BI, LangChain, OpenAI

- Developed a unified analytics platform for fraud detection, anomaly flagging, customer segmentation, and lifetime value prediction using real and synthetic financial data.
- Achieved 97% fraud detection accuracy and high precision lifetime value forecasts, with SHAP based explainability and LangChain powered PDF Q&A.

Disneyland Visitor Experience Dashboard

Python, NLTK, TextBlob, Tableau

- Analysed 40,000+ customer reviews using NLP to uncover recurring visitor concerns across Disneyland parks.
- Engineered 45+ features from 6 base fields and delivered Tableau dashboards visualising satisfaction and complaint trends by year and country.

Generative AI Cold Email Generator

Python, Llama 3.3, LangChain, ChromaDB

- Implemented a role aware cold email generator using LLMs to extract job requirements and match them with candidate profiles.
- Achieved 93% semantic match accuracy using ChromaDB for similarity search, deployed through a Streamlit based interface.

EDUCATION

University of Houston, Houston, TX

Master of Science in Engineering Data Science

Aug 2023 - May 2025

Sathyabama Institute of Science and Technology, Chennai, India

Bachelor of Engineering in Computer Science

Jul 2019 - May 2023

RESEARCH PUBLICATION

Fish Species Classifier for Allergic People using Convolutional Neural Network (CNN) Algorithm

Conference: 2023 7th International Conference on Computing Methodologies and Communication (ICCMC)

DOI: 10.1109/ICCMC56507.2023.10084124