PUNYA VENKATESH

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👤 SUMMARY

A recent AIML graduate with a strong passion for solving real-world problems using Artificial Intelligence, Machine Learning, and Data Science. Driven to contribute to innovative projects and research, with a focus on continuous learning, collaboration, and delivering impactful, data-driven solutions.

🎓 EDUCATION

Bachelors of Engineering, Artificial Intelligence and Machine Learning.
RNS Institute of Technology   2021-2025
CGPA:8.25

💼 WORK EXPERIENCE

3K Technologies, Bangalore
Data Science Intern   May 2025 – Present

- Worked on debugging and refining Java code generated from COBOL using IBM Watsonx Code Assistant for Z. Resolved structural and runtime errors to ensure functional correctness of the transformed code. Set up and configured WCA4Z, ADDI, and related tools in the IBM Cloud environment. Validated output against enterprise standards and collaborated on deployment readiness.
- Engineered a real-time document summarization tool using LangChain, Hugging Face Transformers, and FAISS, enabling efficient content understanding through an interactive Streamlit interface.
- Designed and deployed a multi-agent crisis response system incorporating BART, LangChain, and Retrieval-Augmented Generation (RAG) to simulate intelligent response planning and communication during live emergencies.

Nerastech, Bangalore
Machine Learning Intern
Feb 2025 – Apr 2025

- Completed hands-on industrial training focused on data analytics, feature engineering, and key machine learning algorithms, solving real-world case studies under expert supervision.
- Built and fine-tuned ML models for predictive analysis and anomaly detection, optimized for performance on edge IoT devices where computing resources are limited.

🧩 PROJECTS

CI/CD Pipeline for Dockerized Flask App

- Developed a lightweight Flask web application that displays random motivational quotes with a user-friendly interface using Jinja2 templates.
- Containerized the application using Docker to ensure consistent deployment across development and production environments.
- Implemented a GitHub Actions-based CI/CD pipeline to automate testing and deployment on each push to the main branch.
- Deployed the app on Render's free cloud platform, managing secrets securely via environment variables and demonstrating modern DevOps practices.

Compatibility Test for Skin Grafting Using ML

- Developed a machine learning-based solution to assess donor-recipient compatibility for skin grafting, using real-world patient medical attributes.
- Implemented unsupervised learning (KMeans) for patient clustering and applied supervised models like Decision Trees and SVM to predict graft success likelihood.
- Evaluated models based on accuracy and generalization ability, showcasing the potential of AI in personalized medical decision support systems.

Credit card fraud detection using ML techniques

- Built a robust fraud detection system using Python to classify genuine vs. fraudulent credit card transactions from highly imbalanced datasets.
- Trained and compared multiple supervised learning models including Logistic Regression, Random Forest, and XGBoost to identify anomalies.
- Enhanced model performance through hyperparameter tuning, and evaluated effectiveness using precision, recall, and F1-score to ensure minimal false positives.

SKILLS

- Python, SQL, Git, Jupyter Notebook, VS Code.
- AWS, IBM Cloud, Docker, Kubernetes, CI/CD, REST APIs.
- Scikit-learn, Pandas, NumPy, TensorFlow, Hugging Face, LangChain, Streamlit.
- IBM Watsonx Code Assistant for Z, NLP, RAG.

CO-CURRICULAR ACTIVITY

Head of Events, Sahai India, Bengaluru   Sep 2023 – Sep 2024

- Led the planning and execution of campus-wide events focused on mental health awareness and peer support initiatives.
- Collaborated with volunteers and partner organizations to foster community engagement and safe mental health discussions.

Volunteer, Dazzling Stars, Bengaluru   Jun 2023 – Nov 2023

- Participated in community outreach and support programs, helping organize events for underprivileged children.
- Worked closely with NGOs and local organizations to provide educational and recreational support to children from disadvantaged backgrounds.