Polu Sanjay

Hanamkonda, Telangana
sanjaypolu3@gmail.com | +91 8019769774 | LinkedIn | GitHub | Portfolio

Professional Summary

Machine Learning Engineer with a strong foundation in AI research, data-driven modelling, and full-stack software development. Proven ability to design and deploy intelligent systems — from explainable healthcare prediction models to production-grade web applications — using Python, Scikit-learn, Flask, and the MERN stack. Passionate about bridging the gap between research and real-world impact by building scalable, interpretable, and high-performance AI solutions.

Education

SR University, Warangal, Telangana 2023 – 2027
Bachelor of Technology in Computer Science & Artificial Intelligence *CGPA: 7.00 / 10*
Relevant Coursework: Data Structures & Algorithms, Database Management Systems, Machine Learning, Probability & Statistics, Deep Learning

Publication

Polu Sanjay et al., *"Explainable Boosting with SMOTE Balancing and SHAP Analysis for Accurate and Transparent Stroke Prediction,"* IEEE Conference, 2024. – Applied EBM, SHAP interpretability, and SMOTE class balancing on a clinical stroke dataset; achieved state-of-the-art prediction accuracy and transparency.

Experience

InternPe – Python Programming Intern Feb 2025 – Mar 2025

- Automated data processing workflows using Python, reducing manual effort by approximately 30%.
- Integrated REST APIs to process datasets of 10,000+ records; improved pipeline throughput by ∼25%.
- Applied Pandas and NumPy for data cleaning, transformation, and exploratory data analysis.

InternPe – Game Development Intern (Python & Pygame) Nov 2024 – Jan 2025

- Developed 3 interactive games (Snake, Tic Tac Toe, Four-in-a-Row) with real-time performance optimisation.
- Improved game logic architecture and UI design; reduced average bug resolution time by 40%.

Technical Skills

Languages: Python, JavaScript, SQL, C **Databases:** MongoDB, MySQL
ML / AI: Scikit-learn, EBM (InterpretML), SHAP, SMOTE, XGBoost, Pandas, NumPy, Matplotlib, Seaborn
Frameworks: Flask, React, Node.js, Express **Tools & Cloud:** Git, GitHub, VS Code, Jupyter Notebook, AWS, Docker (basic)
Core Areas: Machine Learning, Explainable AI, Data Analysis, REST APIs, Full-Stack Web Development

Projects

MediAI – AI Healthcare & Disease Prediction Platform
Python, Flask, Scikit-learn, HTML/CSS, JavaScript, Claude API

- Built a full-stack healthcare platform for symptom-based disease prediction across 200+ symptoms.
- Achieved 85% accuracy and 0.84 F1-score using Decision Tree and Logistic Regression models.
- Integrated an AI chatbot (Claude API) for real-time health assistance and designed modular ML pipeline for future upgrades.

BlueDrop / Sujala – Full-Stack E-Commerce Platforms
React, Node.js, Express, MongoDB Atlas, Vercel, Render

- Built and deployed two production MERN e-commerce platforms (bluedrop and sujala).
- Implemented JWT authentication, localStorage session management, and RESTful product/order APIs.
- Resolved CORS, MongoDB Atlas IP whitelisting, and PWA/Android WebView deployment issues end-to-end.

LC Tracker – LeetCode Progress Tracker
React, JavaScript

- Built a responsive coding tracker with 100+ DSA problems, search, filters, and difficulty-based progress visualisation.
- Implemented localStorage persistence and an interactive dashboard for tracking solve history.

Certifications

- AWS Academy Graduate – Cloud Foundations
- AWS Academy – Cloud Web Application Builder
- CCNA: Introduction to Networks – Cisco Networking Academy
- Deloitte Data Analytics Job Simulation (Forage)
- Accenture Technology Consulting Job Simulation (Forage)
- Walmart Advanced Software Engineering Job Simulation (Forage)