

Shruthin Reddy Sainapuram

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Summary

Data Science professional with expertise in building end-to-end predictive models and analytics solutions. Proficient in **Python, SQL**, and **Power BI** with experience in **machine learning, ETL processes**, and **interactive reports** development. Skilled in transforming **complex datasets** into actionable insights to drive business value across **healthcare, marketing, and customer analytics domains**.

Work Experience

Grading Assistant

University of Louisville

September 2023 – Present

Louisville, USA

- Reviewed **80+ weekly C/C++ programming assignments**, providing detailed code feedback and optimization suggestions, improving student performance by **15%**
- Maintained **100%** accuracy in grading records, ensuring fairness and compliance with **FERPA privacy guidelines**, while helping students identify **coding errors** and **improve problem-solving skills**.

Data Science Intern

VE Projects Private Limited

August 2022 – May 2023

Hyderabad, India

- Worked on data preprocessing for a customer churn analysis project using **Python (pandas, NumPy)** and **SQL**, learning techniques to clean and transform **500K+** customer records under senior data scientist guidance.
- Created reports with **Power BI**, developing **data storytelling** skills to effectively communicate insights about customer behavior patterns to non-technical stakeholders.
- Learned machine learning implementation by applying **scikit-learn models (Random Forest, XGBoost)** to the churn prediction project, improving model accuracy from **76% to 83%** with team support.

Skills

- Programming Languages:** Python, C++, C, HTML/CSS, JavaScript
- Databases:** SQL, PostgreSQL, Azure SQL Database
- Machine Learning and Deep Learning:** Supervised & Unsupervised Learning, Neural Networks, CNNs, Feature Engineering
- Libraries & Frameworks:** NumPy, pandas, scikit-learn, Matplotlib, Seaborn, PySpark, Flask, Hugging Face, ChromaDB
- Cloud & Data Engineering:** Azure Data Factory, ETL Pipeline Development, Data Integration
- Natural Language Processing & Generative AI:** Transformers, LLMs, Vector Databases, Prompt Engineering, Fine-Tuning, RAG, Embedding Models
- Data Visualization & Business Intelligence:** Power BI, Interactive Dashboards, Data Storytelling
- Development & Productivity Tools:** Jupyter Notebook, Google Colab, Git/GitHub, Visual Studio Code, Microsoft Excel
- Mathematics & Statistics:** Probability, Statistical Analysis, A/B Testing, Hypothesis Testing

Projects

AI-Powered Interactive Resume Chatbot

- Developed a conversational AI chatbot using **Flask, Python, and Google Gemini API** that provides dynamic responses about my skills, projects, and experience through an intuitive web interface.
- Implemented semantic search with **ChromaDB** vector database for efficient information retrieval, enabling the system to find relevant documents from my resume, certifications, and project documents.
- Created a responsive UI with **HTML/CSS/JavaScript** that features real-time typing animations, quick-selection buttons for common queries, and mobile-responsive design to enhance visitor engagement.

Healthcare Readmission Risk Predictor

- Developed an end-to-end machine learning system to predict 30-day hospital readmission risk for diabetic patients, analyzing **100,000+** hospital admissions with **50+** features.
- Implemented advanced feature engineering based on medical domain knowledge using **Python (pandas, scikit-learn)**, creating **25+** derived features that improved prediction accuracy from **76% to 87%**.
- Designed interactive dashboard components using Power BI to visualize patient risk stratification, demonstrating potential Medicare penalty savings of up to **\$125,000** annually for mid-sized hospitals.

Certifications

- Microsoft Power BI Data Analyst Associate - PL300
- Microsoft Azure Fundamentals – AZ900
- Hands-On Approach to AI for Real-World Applications - IIT Kharagpur & TCS iON
- Oracle Cloud Infrastructure 2024 Generative AI Certified Professional

Education

University of Louisville | Master of Science in Computer Science and Engineering | **GPA: 3.96/4.0**

August 2023 - Present

- Coursework:** Python and Data Analytics, Data Visualization, Intro to Machine Learning, Web Mining for E-Commerce