Pushpanathan N

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Summary

Aspiring **Machine Learning Engineer** with a solid foundation in **Python**, **Data Analytics**, **Machine Learning Algorithms**, and **Data Visualization**. Dedicated to applying analytical and problem-solving skills to build practical, data-driven solutions and continuously improve through hands-on learning.

Education

T John Institute of Technology, Bangalore **2021 - 2025**
B.E - Information Science and Engineering ***CGPA - 8.02*** *Bengaluru, Karnataka*

Internship Experience

QSpiders Global Private Limited **01/2025 – Present**
Machine Learning and Data Analytics Intern *Bengaluru, India*

- Gained hands-on experience in **Python**, **SQL**, and **Machine Learning**, working on multiple projects involving data extraction, transformation, and predictive modeling.
- Designed and developed interactive dashboards using **Excel** and **Power BI** to visualize business insights, trends, and model performance metrics.
- Applied **Python libraries** (NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn) and various **ML algorithms** for data cleaning, preprocessing, and exploratory data analysis.

Projects

1. **Personal AI Legal Assistant** — CrewAI, Groq/LLaMA 3, ChromaDB, Tavily, Python, Streamlit **2025**
   - Built a multi-agent legal assistant using CrewAI to analyze legal issues and classify case types.
   - Used RAG-based research to find relevant IPC sections and legal precedents.
   - Automated document generation (e.g., complaints) and deployed via Streamlit.
2. **Retail Database Chatbot (Text-to-SQL)** — LangChain, Google PaLM, ChromaDB, MySQL, Streamlit **2023**
   - Developed a chatbot to convert natural language queries into SQL for a retail database.
   - Used Few-Shot Learning and ChromaDB to improve query accuracy.
   - Built using LangChain, Google PaLM, and Streamlit.
3. **Holiday Package Purchase Prediction** — Random Forest, Scikit-learn, Python **2025**
   - Built a classification model to predict customer purchase likelihood.
   - Performed data cleaning and feature engineering, handling missing data and creating new features.
   - Tuned a Random Forest model to achieve 93.46% test accuracy and 0.8404 ROC-AUC score.

Technical Skills

- **Languages:** Python, SQL
- **ML Algorithms / Modeling:** Random Forest, Decision Trees, XGBoost, KNN, Label Encoding, Scikit-learn
- **AI / LLM Tools:** LangChain, LlamaIndex, Ollama, Groq, OpenAI
- **Data Manipulation Storage:** Pandas, NumPy, TinyDB, MySQL, ChromaDB
- **Visualization / Reporting:** Matplotlib, Seaborn, Power BI, Advanced Excel (Pivot Tables, VLOOKUP/XLOOKUP, Power Query)
- **Development Environment Tools:** PyCharm, VS Code, Google Colab, Git, GitHub
- **Web / App Frameworks:** FastAPI, Streamlit

Certifications

- **Data Analytics Essentials** — CISCO
- **Data Science Using Python** — INI
- **Introduction to Machine Learning** — NPTEL
- **Python Bootcamp for Data Science and Machine Learning** — Udemy