PRINCE RAJ

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ABOUT

GATE-qualified NIT Calicut alumnus with over 3 years of experience in the data science industry. As an AI/ML Scientist, handled over 1 million banking transactions and successfully implemented cutting-edge machine learning models. Specialized in developing and deploying production-ready ML/DL, GenAI solutions, leveraging advanced technologies to solve complex business problems. Expertise in designing scalable and reusable platform architectures ensures code quality and adherence to industry best practices.

SKILLS

Technical Skills	Python, SQL, Machine Learning, DL, NLP, Gen AI, LLM, Multi Agent RAG
Libraries/Framework	Flask, Fast API, Streamlit, OpenAI, Groq, Gemini, Ollama, HuggingFace, Sklearn, Keras
ML/DL	Predictive Modelling, Time Series Forecasting, state-of-the-art, Clustering, Dall-E
Databases	MySQL, PostgreSQL
Data Visualization	PowerBI, Advance Excel, Matplotlib, Seaborn, Plotly
Statistics	PCA, Bayesian statistics, Correlation, Linear Algebra, Probability, A/B Testing
Tools	Git, VSCode, Heroku, Anaconda, PyCharm, Postmaster, Jupyter

EXPERIENCE

Data Scientist   March 2023-Present
Tata Consultancy Services (TCS)   *Pune*, Maharashtra

- **Fraud Modelling:** Rapidly deployed a real-time Random Forest model, slashing fraudulent transactions by 45%.
- **ANN Model:** Pioneered sequential models using Keras, achieving an additional 12% uplift in fraud detection accuracy.
- **Fraud Analytics:** Successfully deployed a machine learning model within three months of project initiation, resulting in a 34% improvement in recall while minimizing false positives to 0.1%. This enhanced accuracy enabled secure transactions, processing millions of dollars per day.
- **Award and Recognition:** Applause Award, Certificate of Appreciation, Received commendation from the Global head of the client.

Tech Stack: **Random Forest, XGBoost, Tensorflow, Keras, Artificial Neural Network, Ensembling and Stacking**

Developed a Generative AI application to **anonymize sensitive information in PDFs** for Life Sciences. Utilized generative AI embeddings and FAISS vector database for precise data redaction, targeting names, ages, gender, phone numbers, identification marks, and addresses. Ensured data privacy compliance and enhanced efficiency, reducing manual effort
Key technologies: Python, FAISS, PyPDF2, and regex.

Invoice Chatbot: Deployed on the cloud, **DocuGenie** is a **GenAI chat application** that processes documents like **invoices, receipts, contracts, and reports** in Pdf format. Leveraging a cutting-edge **Large Language Model** (LLM), the app offers real-time, **context-aware responses** to user queries. I designed the system architecture, integrated the GenAI model, and crafted a responsive, user-friendly interface.

Data Scientist   Aug 2020 – March 2023
Think and Learn Private Limited (BYJUS)   *Bengaluru,* Karnataka

- **Customer Churn Prediction:** I used Python, logistic regression, and k-prototype clustering algorithm to develop a machine learning model that predicted customer churn with 85% accuracy. This model helped the company to reduce churn rate by 20% and increase customer retention rate by 10%.

- **Customer Segmentation:** I used k-prototype clustering algorithm to identify distinct customer groups based on demographic and behavioral data. This segmentation helped the company to target its marketing campaigns more effectively, resulting in a 25% increase in targeted marketing effectiveness.

Award and Recognition: Extra mile award of the year.

EDUCATION

- **M.Tech -** Mechanical Engineering, National Institute of Technology, Calicut (2018-2020) CGPA 7.8
- **B.Tech -** Mechanical Engineering, Vel Tech University, Chennai (2012-2016) CGPA 8.6

PROJECTS

Comprehensive Boston House Price Regression Predictor. Deployed an end-to-end **machine learning** project to **predict** Boston house prices using **Flask** and **Render**, and created an **Android app**. The project involved **data reading**, **problem definition**, **target variable identification**, and initial **data exploration**. Conducted visual and statistical analysis, **feature selection**, **outlier** and **missing value treatment**, and data transformation for machine learning. Applied **K-Fold cross-validation**, tested various **regression algorithms**, and selected the best model. Published the project on **GitHub** for accessibility. LINK

Image Reader. The **Camera Flash App** is a **GenAI** tool designed to enhance **image recognition** and **processing** using the **Large Language Model (LLM)** of **Gemini**. The app allows users to upload images in **jpg**, **jpeg**, or **png** formats and provide a **text prompt** for more **contextual analysis**. By clicking the **"Analyze Image"** button, the app processes the image and text, returning detailed **insights** and **analysis results**. LINK

Consumer-Electronics-Sales-Data-Analysis. This project delves into the sales and transaction data for a consumer electronics procurement company operating across **21 categories** with **over 80 employees**. The analysis integrates data from **60+ Excel files**, encompassing consumer profiles, product details, and sales employee records. By leveraging **SQL, Advanced Excel, and Power BI**, valuable insights into consumer behavior, product performance, and sales staff efficiency were uncovered, ultimately driving better business decisions and strategies. Additionally, utilized the **GENAI and KPI** features of Power BI to create comprehensive reports and dashboards, enhancing the overall analytical experience. LINK

AWARDS

- First prize Winner at national level main quiz at IIT Madras.
- Second prize in agriculture quiz at Anna University Guindy.
- Second prize in Tech Debate in Tathva event at NIT Calicut.
- First prize at SRM Vadaplani campus in tech quiz.
- Second prize at MIT Chennai in technical quiz.
- Best innovative project award at international project expo VISAI sponsored by Quest global and EDS technologies.

CERTIFICATES

- Artificial Intelligence Foundation: Machine Learning
- Complete Data Science Bootcamp
- SQL for Data Analysis - with SQL Server
- Introduction to Fintech
- Fundamentals of Financial Services
- SQL for Data Analysis - with SQL Server