

# 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, HTML, LLM, Gemini
Libraries/Framework	Flask, Fast API, Numpy, Pandas, Scikit-Learn, Sklearn, NLTK, TensorFlow, Keras
ML/DL	Predictive Modelling, Time Series Forecasting, LLM, 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

<b>Data Scientist</b>	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**

**Invoice Chatbot:** Deployed on the cloud, **DocuGenie** is a **GenAI chat application** that processes documents like **invoices, medical prescriptions, receipts, contracts, and reports** in JPEG, JPG, and PNG formats. 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. [LINK](#)

<b>Data Scientist</b>	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**. This functionality supports applications like **content creation**, where bloggers, marketers, and content creators can generate **descriptive content** for images. The app also aids in **automated image tagging** and **annotation**, useful for organizing large **image datasets**, improves **accessibility** by providing **textual descriptions** for visually impaired users, and assists in academic and industry **research** through accurate image **analysis** and **data extraction**. [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 Vadapalani 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