





# Kartik Rath

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## ABOUT

Data Scientist with 2+ Y.O.E specialized in UPI, adept at optimizing processes and enhancing security through advanced analytics. Skilled in fraud detection, cross-functional collaboration, and delivering actionable insights. Passionate about innovation.

## SKILLS AND INTERESTS

**Technical:** Machine learning, Deep learning, NLP, Data-Science, Statistics, Python, SQL, Data Visualisation, Generative AI. **Packages and Algos:** Numpy, Pandas, Matplotlib, Seaborn, Keras, PyTorch. | Linear regression, Logistic regression, Decision tree, Random Forest, Bagging, Boosting, SVM, KNN, ANN, RNN, LSTM, Auto-Encoders, Transformers

## EXPERIENCE

**National Payment Corporation of India**  
— UPI Design and Development —

July 2022 - Present

### 1. GNSS (GPS-based toll collection system in India)

- Contributed to the development and implementation of a GPS-based toll collection system, leveraging location-based technologies to streamline toll collection processes.
- Improved toll collection efficiency by implementing features such as automatic toll deduction, dynamic pricing based on traffic conditions, and real-time monitoring of toll booth activity, resulting in reduced congestion and enhanced user experience.

### 2. Aadhar Enabled Payment Service (AEPS) fraud detection

- Spearheaded the development of a robust fraud detection model for the AEPS resulting in a 20% increase in fraud detection accuracy and a 30% reduction in false positives compared to previous methods, thereby minimizing financial risks and losses, leveraging advanced machine learning algorithms and statistical techniques to identify fraudulent transactions and mitigate financial risks.
- Established processes for continuous monitoring and improvement of the fraud detection system, incorporating feedback loops and performance metrics to enhance detection capabilities and adapt to evolving fraud patterns.
- Technologies: **Python, ML, Random Forest, Optuna, Kubeflow, DBT, Mlflow, Docker.**

### 3. International UPI Acceptance

- Documented the Technical Specific Document (TSD), Business Requirement Document (BRD), and API's specific Document (ASD) to provide clear guidelines for the development team of International Partner.
- Gathered comprehensive requirements from stakeholders to ensure alignment with business objectives and facilitated the expansion of UPI technology beyond national borders, enabling seamless digital payments between different countries like France, Nepal, Singapore, boosting cross-border transactions by 50%.
- Developed and maintained a weekly transaction dashboard summary using the Superset platform, providing key insights into transaction volumes, trends, and performance metrics.

## EDUCATION

**PG Certification Program in AI-ML from IIIT Hyderabad**  
May 2022 - Feb 2023

Percentage - 69

**Meerut Institute of Engineering and Technology, Meerut, UP**  
Bachelors of Technology in Computer Science and Engineering

2018 - 2022  
GPA: 7.8/10.0

## PROJECTS

### 1. Automatic Vehicle Licence Plate Detection [Project live link]

- Developed a system for automatically detecting and recognizing vehicle number plates from images or video streams using computer vision and machine learning techniques.
- Implemented image preprocessing, object detection, and optical character recognition (OCR) algorithms to accurately localize, extract, and recognize vehicle number plates.
- Integrated the system into various applications, ensuring accurate and efficient operation in real-world scenarios, and provided comprehensive documentation for open-source access and collaboration.
- Technologies: **Deep learning, VGG16, EasyOCR, TrOcr, Streamlit**

### 2. Music Recommendation system using Spotify API [Project live link]

- Developed a personalized music recommendation system leveraging the Spotify API, utilizing user preferences and listening history to suggest tailored playlists and tracks, enhancing user engagement and satisfaction.
- Implemented the project with Streamlit for seamless deployment and user interaction, providing a user-friendly interface for exploring and discovering music recommendations effortlessly.

## ACHIEVEMENTS

- Achieved the **5th position** in NPCI hackathon for **UPI Fraud Detection**, demonstrating expertise in developing innovative solutions to combat fraudulent activities within the Unified Payments Interface (UPI) ecosystem.
- Created comprehensive educational content on machine learning and Artificial intelligence through my blog channel, enhancing understanding and proficiency for a wide audience.