

# Niraj Kumar

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## WORK EXPERIENCE

### Sr. Data Scientist

Gurgaon, Haryana | Since May 2024

@ACCERTIFY(SPLIT FROM AMERICAN EXPRESS IN 2024)

- Worked on a new line of product called an **Auto-Review solution**(Machine Learning based model) which led to **annual savings of ~\$1M per client** along with significant reduction in annual operational cost
- **Collaborated cross-functionally** with product managers, engineers, and client success teams to align model development with business objectives, ensuring seamless integration into client workflows.
- **Designed and implemented advanced feature engineering techniques** (e.g., linkage analysis, past-lookup, and out-of-pattern detection) that enhanced existing model performance and decision accuracy.
- **Conducted A/B testing and stress testing to validate model impact**, optimize deployment strategies, and ensure robustness under real-world conditions.
- **Provided technical leadership by mentoring junior data scientists**, fostering their professional growth, and overseeing projects to ensure timely delivery and adherence to high-quality standards.
- **Skills:** Case Analysis, Feature Engineering, Machine Learning Algorithms(Random Forests, XGBoost, Gradient Boosted Trees etc.), Deep Learning Techniques, Strategy Design, A/B Testing
- **Tools and Tech:** SQL, Python, PySpark, Git, FastAPI, Docker, AWS

### Data Scientist

Gurgaon, Haryana | Aug 2022 - Apr 2024

@AMERICAN EXPRESS

- Developed Machine Learning-based **Fraud Detection Models** tailored for diverse industries, including Money Transfer, Retail, Ticketing, Travel, effectively mitigating fraud risks.
- Designed and implemented **strategic rule-based layers on top of ML models** to enhance performance, addressing seasonal fraud patterns and industry-specific nuances.
- **Recognized as Analyst of the Quarter** for designing the first-of-its-kind fraud detection model for the Money Transfer industry, significantly improving fraud detection capabilities in a high-risk domain.
- **Skills:** Case Analysis, Feature Engineering, Machine Learning Algorithms(Random Forests, XGBoost, Gradient Boosted Trees etc.), Strategy Design
- **Tools and Tech:** Pandas, SQL, Python, PySpark, Git

## EDUCATION

### M.Tech in Computer Science

Kolkata, India | 2020-22

INDIAN STATISTICAL INSTITUTE

### B.Tech in Computer Science and Engineering

Pauri, Uttarakhand | 2015-19

GOVIND BALLABH PANT ENGINEERING COLLEGE

## PROJECTS

### ANOMALY DETECTION IN SURVEILLANCE VIDEOS

PYTORCH, DEEP NEURAL NETWORKS, 3D CNNs

- Designed a **real-time anomaly detection system** using 3D CNN-based Encoder-Decoder architectures for video reconstruction and future frame prediction
- Experimented with and optimized multiple deep neural network architectures to enhance detection accuracy
- Capable of processing videos at 20 FPS, ensuring practical deployment in live surveillance environments

### DYNAMIC PRICING FOR TAXI RIDES

DECISION TREES, FASTAPI, DOCKER, AWS

- Developed a **predictive pricing model** leveraging real-time and historical market data to estimate optimal fares
- Optimized revenue and customer satisfaction using demand-supply dynamics and temporal patterns
- Deployed the solution as a scalable API on AWS, enabling seamless integration with ride-sharing platforms