

# Sejal Gupta

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## Experience

### Reinsurance Group of America (RGA)

Mumbai, Maharashtra

Consultant (Contract)

August 2024 – Present

- Developed and deployed **AI-powered predictive models (GLM)** to enhance risk classification accuracy by **8%**, directly impacting underwriting decisions and financial risk assessment.
- Designed and implemented a scalable **Risk Scoring Model (RSM)** using **machine learning** trained on **200K+ customer records** from **4 clients**, increasing underwriting efficiency from **50% to 60%**.
- Leveraged **Lift Curve analysis** to boost model precision by **8%**, leading to more accurate underwriting decisions and a significant reduction in errors.
- Built an **Underwriting Fraud Detection (UDF) Model** using **anomaly detection algorithms**, analyzing **5K+ medical records** to detect fraudulent reports, reducing fraudulent policy issuance by **11%**.
- Automated post-issuance underwriting guideline checks using **ML-based rule engines**, streamlining compliance verification and reducing manual review time.
- Developed a real-time **executive dashboard for the CEO and leadership**, tracking **5+ key performance indicators (KPIs)** for decision-making.

### 360DigiTMG

Bangalore, Karnataka

Data Analyst Trainee

November 2023 – July 2024

- Conducted exploratory data analysis (EDA) on large datasets using **Python** and **statistical methods**, identifying key trends and actionable insights for business strategies.
- Cleaned and preprocessed raw data using Python libraries like **Pandas** and **NumPy**, ensuring data quality for machine learning models.
- Developed interactive dashboards in **Tableau/Power BI** to visualize key metrics and track business performance.

## Education

National Institute of Technology (MNIT), Jaipur, Bachelor of Technology

July 2019 – May 2023

## Projects

### IoT Predictive Maintenance Dashboard with Deep Learning

GitHub

- Built real-time IoT monitoring system using **Python/Streamlit**, processing sensor data from **5 industrial devices** with live **anomaly detection**.
- Implemented **deep learning** pipeline with **Isolation Forest**, **One-Class SVM**, **LSTM Autoencoders**, and ensemble methods, engineering **20+ features** including time-series patterns and sensor interactions for predictive maintenance.

### AI-Powered Movie Recommendation System with ALS Algorithm

GitHub

- Built custom **collaborative filtering ALS algorithm** from scratch using NumPy, achieving **40% improvement over baseline** with **Recall@10** of **0.20-0.35**.
- Developed **user segmentation analytics** and temporal pattern detection using **machine learning**, identifying peak rating hours and demographic preferences.
- Implemented **A/B testing framework** with statistical significance testing and scalability simulation (**100K to 10M ratings**).
- Created interactive **Streamlit dashboard** with real-time **AI recommendations**, model comparison, and business analytics, deployed on cloud.

## Skills

**AI/ML Frameworks & Libraries:** TensorFlow, Scikit-Learn, Pandas, NumPy, Seaborn, Matplotlib

**Technical Specializations:** Machine Learning (ML), SQL, Predictive Modeling, Data Visualization, Statistical Analysis

**Programming Languages:** Python, R, C++, C

**Tools & Technologies:** Jupyter Notebook, Power BI, Tableau, Streamlit

**Core Competencies:** Data Structures and Algorithms, Feature Engineering, Model Optimization, Data Preprocessing