

# NAGRAJ DESHMUKH

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## PROFILE

- **Technical Skills** : Python, R, SQL, Numpy, Pandas, REST APIs, Linux scripting, Deep learning
- **Development Tools** : AWS, Tableau, Git, MS Excel, MongoDB, Jupyter, Tensorflow, PyTorch, Docker
- **Certifications** : AWS Certified Cloud Practitioner, Microsoft Azure Fundamentals AZ900

## EDUCATION

**Purdue University, Daniels School of Business** **West Lafayette, IN**  
**Master of Science in Business Analytics and Information Management** **July 2024**

- Coursework : Machine Learning, Data Mining, Computing for Analytics, Applied AI in Business

**Malaviya National Institute of Technology (NIT) Jaipur** **Jaipur, India**  
**Bachelor of Technology, Electrical Engineering** **May 2020**

## PROFESSIONAL EXPERIENCE

**Prediction Guard (LLM Compliance)** **West Lafayette, IN**  
**AI Engineer Intern** **January 2024 – March 2024**

- Engineered an autonomous LLM powered marketing agent to identify relevant trends and generate post ideas specific to target platforms in real time, boosting post frequency by **40%** and engagement by **25%**
- Developed a prompt-chaining and **RAG** pipeline to enhance the agent's context awareness and scalability across industries, achieving significant brand alignment with a semantic score of **0.8**
- Implemented rigorous content verification for factuality, toxicity, and PII, ensuring compliance and content safety
- **Won** Analytics Poster Presentation competition at Purdue University for outstanding project impact and innovation

**Spry Therapeutics (Musculoskeletal Healthcare)** **Pune, India**  
**Data Scientist** **February 2022 - March 2023**

- Directed a four member data science team to engineer a **computer vision** pipeline for company's flagship Remote therapeutic monitoring (RTM) tool securing a **\$7M** funding from marquee investors
- Proposed and led movement categorization project helping product scale from **5** exercises to **400+** exercises
- Optimised pose detection models in client-side AI, improving speed by **200%** and accuracy by **65%**
- Designed novel algorithms for calculating **15+** accuracy parameters of five categories of exercises
- Introduced visualizations with **mediapipe**, **opencv** and **pillow**, increasing customer satisfaction by **23%**

**Societe Generale (Multinational Risk Management)** **Bengaluru, India**  
**Software Engineer** **August 2020 - October 2021**

- Engaged in agile team to continually deliver a robust Credit Risk Monitoring application used by **1100+** end-clients
- Solved **6** types of severe security vulnerabilities, making application OWASP compliant, and represented Risk team in companywide disaster recovery activity including stakeholders from France, India and Romania
- Formulated a documentation pipeline for common issues, resulting in a **30%** reduction in team's response time
- Implemented a mechanism for live debugging directly in production for **10%** of users

**Robotics And Machine Analytics (RAMAN)** **Jaipur, India**  
**Researcher** **July 2019 - May 2020**

- Developed novel metaheuristic optimization algorithms and published two research papers with total **20** citations in reputed journals - Evolutionary Intelligence (Springer) and Knowledge Based Systems (Elsevier)

## PROJECTS

**Walmart M5 Sales Forecasting** | Keras, LSTM, XGBoost, ARIMA, Feature Engineering **February 2024**

- Forecasted 30K+ time series using engineered sales, pricing, temporal and aggregation features.
- Built LSTM models achieving validation loss of 0.013 and WRMSSE of 1.41

**Boosting AirBnb Host Profits** | K-Means, Regression Analysis, XGBoost, Hypothesis testing **December 2023**

- Dissected AirBnb's Superhost data for Chicago, to identify demand seasonality and market expansion strategy.
- Built predictive models to empower hosts to qualify as superhosts, and optimize listings and earnings

**LLMs for automated medical documentation** | Prompt Engineering, Python, Sagemaker **November 2023**

- Hosted Llama-2 on AWS Sagemaker and implemented zero-shot prompting and RAG for information extraction from medical transcripts in multiple languages and achieved WER of 0.86

**GAP Inc's Big Data Strategy** | Web-scraping, Selenium, Google Maps API, Azure Text API **October 2023**

- Analysed store locations, conducted sentiment analysis on reviews, and SEP analysis on keywords.
- Integrated financial insights from EDGAR filings for comprehensive marketing and brand strategy evaluation