# MOHINI AGARWAL

Glendale, AZ | mohini15oct@gmail.com | +1-623-274-7601

LinkedIn: www.linkedin.com/in/mohini-agarwal-phd-080025191 |
Google Scholar : https://scholar.google.com/citations?hl=en&user=oNopg-QAAAAJ |
GitHub : https://github.com/AgMohini/machine_learning_projects

## PROFESSIONAL SUMMARY

Applied Data Scientist with 8+ years of experience leveraging statistical modeling, forecasting, and machine learning to derive strategic business insights. Proven expertise in predictive modeling of customer behavior, credit analytics, and financial planning. Successfully translated complex analytical insights into business-relevant narratives across academic and applied settings, fostering collaboration and data-driven decision-making. Applied deep learning techniques, including neural networks, to structured and unstructured datasets for predictive analytics. Experience with tools like Python, R for advanced data manipulation, visualization, and model deployment. Bridged academic research with applied data science to support lending risk evaluation, profitability forecasting, and strategic metric design.

## TECHNICAL SKILLS

**Languages & Tools**: Python, R, SQL, Git, Jupyter
**Machine Learning**: scikit-learn, TensorFlow, XGBoost, Logistic Regression, SVM, Forecasting Models, Neural Networks
**Visualization**: Seaborn, Matplotlib, Plotly, Excel
**Techniques**: Predictive Modeling, Anomaly Detection, Drift Detection, Optimization, Time Series Analysis
**Communication**: Data Storytelling, Cross-Functional Collaboration, Remote Teaming

## PROFESSIONAL EXPERIENCE

**Instructor – Data Science & Statistics**

Grand Canyon University, AZ | 2023 – Present

Taught courses in Python, machine learning, and data visualization. Guided student projects focused on logistics forecasting, route optimization, and model validation. Delivered real-world applications through dashboard development and model interpretability sessions.

**Assistant Professor – Data Science & Statistics**

Amity University, India | 2019 – 2022

Led ML-based research initiatives for logistics and multi-criteria optimization. Collaborated with academic and industrial teams to improve operational models for transport systems. Published peer-reviewed research on predictive modeling and supply chain analytics.

**Assistant Professor – Data Science & Statistics**

Galgotias University, India | 2017 – 2019

Developed and taught statistical methods and optimization models. Mentored applied research in logistics analytics and time-series forecasting. Supervised student-led predictive analytics projects using R and Python.

## PROJECTS

### News Text Classification with Model Interpretability

- Used SVM and Logistic Regression for multi-label text classification.
- Performed HP tuning, drift detection using Cohen's H, and evaluated with F1, Accuracy, and ROC-AUC.
- Applied LIME for model interpretability. Familiar with BLEU and ROUGE metrics for LLM evaluation.

**Time Series Forecasting for Stock Prices**

- Applied ARIMA and regression models to financial datasets.
- Conducted model diagnostics and forecast evaluations.

**Semantic Analysis with Sentence Transformers**

- Applied deep learning-based text embeddings to categorize and compare research abstracts.

**Anomaly Detection in Network Traffic**

- Implemented Isolation Forest and One-Class SVM to detect anomalies in network flows. Reduced false positives and visualized results using dimensionality reduction.

**Applied Neural Networks for Predictive Modeling**

- Developed, trained, and evaluated feedforward neural networks on large, structured datasets using TensorFlow and Keras.
- Performed hyperparameter tuning, regularization, and model evaluation using cross-validation and learning curves.

## EDUCATION

- Ph.D. in Operations Research and Statistics — 2013 – 2018
- M.S. in Data Science — 2024 – Present (Expected 2026)
- M.S. in Operations Research and Statistics — 2010 – 2012
- B.S. in Mathematics — 2007 – 2010