

# Sohail Haroon

AI/ML Practitioner | Data Analytics & EDA | Machine Learning | Deep Learning | Generative AI

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## PROFILE

Applied AI/ML practitioner with project experience across exploratory data analysis, predictive modeling, ensemble learning, neural networks, computer vision, retrieval-augmented generation, and model deployment. Portfolio case studies emphasize business problem framing, reproducible methodology, evaluation, and actionable conclusions.

## SELECTED AI/ML PROJECTS

### Medical Assistant - Generative AI / RAG

Built a retrieval-augmented assistant using trusted medical reference materials, document chunking, embeddings, vector retrieval, prompt controls, and grounded LLM response generation.

### SuperKart - Retail Forecasting and Deployment

Developed an end-to-end retail forecasting workflow including data preparation, regression-model comparison, tuning, API packaging, Docker, Streamlit, and deployment-ready assets.

### HelmNet - Computer Vision

Created a safety-helmet image-classification solution using CNNs, transfer learning, fine-tuning, and data augmentation for workplace compliance monitoring.

### Renewind - Deep Learning / Predictive Maintenance

Designed neural-network models to identify wind-turbine generator failures, emphasizing recall to reduce costly missed failures; best validation recall was approximately 0.934.

### EasyVisa - Advanced Machine Learning

Compared bagging, boosting, and stacking classifiers, tuned performance, and identified drivers of visa-application outcomes for decision support.

### Personal Loan Campaign - Classification

Built a customer-targeting workflow with EDA, preprocessing, decision-tree modeling, performance evaluation, and campaign recommendations.

### FoodHub - Data Analytics / EDA

Performed end-to-end exploratory analysis of customer orders, cuisine demand, restaurant performance, ratings, and revenue patterns to generate business recommendations.

# PROJECT CAPABILITIES

## Data Analytics and EDA

Data cleaning, univariate and bivariate analysis, visualization, pattern discovery, KPI interpretation, and business recommendations.

## Machine Learning

Classification, regression, feature engineering, ensemble methods, hyperparameter tuning, and model evaluation.

## Deep Learning and Computer Vision

Neural networks, CNNs, transfer learning, fine-tuning, data augmentation, recall-focused evaluation, and image classification.

## Generative AI and RAG

Document preprocessing, embeddings, semantic retrieval, vector databases, prompt engineering, and grounded response generation.

## Deployment

Flask APIs, Docker, Streamlit, Hugging Face workflows, GitHub documentation, and reproducible project packaging.

# CORE SKILLS

|                    |                       |                 |            |
|--------------------|-----------------------|-----------------|------------|
| Python             | Pandas                | NumPy           | Matplotlib |
| Seaborn            | Scikit-learn          | TensorFlow      | Keras      |
| EDA                | Data Visualization    | Classification  | Regression |
| Ensemble Learning  | Hyperparameter Tuning | RAG             | LLMs       |
| Prompt Engineering | Vector Databases      | Computer Vision | Flask      |
| Docker             | Streamlit             | Git             |            |

# CREDENTIALIAL

UT Austin Post Graduate Program in Artificial Intelligence and Machine Learning: Business Applications

# PORTFOLIO POSITIONING

Available for AI/ML, data analytics, exploratory analysis, predictive modeling, computer vision, RAG, and model-deployment project discussions. Detailed case studies, technical visuals, repositories, and contact form are available through the X-AI-ML portfolio website.