



# Miraj Ud Din

Artificial Intelligence  
Engineer

Data Science | Machine  
Learning | Data Analysis |  
Deep Learning | AI Researcher

## CONTACT

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Portfolio Website

Kaggle Profile

GitHub

## PROGRAMMING

Python (Libraries) 95%

SQL 90%

HTML / CSS / JS 60%

C++ 50%

## TOOLS & PLATFORMS

NumPy, Pandas, Matplotlib,  
Seaborn, Plotly, Scikit-learn,  
XGBoost, LightGBM, CatBoost,  
TensorFlow, Keras, ANN, CNN,  
RNN, LSTM, NLTK, spaCy,  
Optuna, SMOTE, Git & GitHub,  
VS Code, Antigravity, Jupyter  
Notebook, Google Colab,  
Streamlit, Vercel, Firebase, Excel,  
Word, PowerPoint, EndNote

# Miraj Ud Din

BS Artificial Intelligence · The University of Agriculture, Peshawar

## PROFESSIONAL SUMMARY

Artificial Intelligence undergraduate (6th semester) with strong expertise in Machine Learning, Deep Learning, and Data Science. Proficient in Python, TensorFlow, Keras, and the full ML pipeline, from raw data preprocessing and feature engineering to hyperparameter optimization (Optuna / TPE) and Streamlit-based web deployment. Experienced in comparative model analysis across multiple regression and classification algorithms. Aspiring AI researcher with published work on smartphone price prediction using advanced ML techniques.

## EDUCATION

### BS Artificial Intelligence

The University of Agriculture, Peshawar | 2023 – 2027 (Expected)  
Institute of Computer Sciences and Information Technology (ICS/IT)  
CGPA: **3.65 / 4.00** | 6th Semester

## PROJECTS

### Smartphone Price Prediction – Comparative ML Regression Analysis

XGBoost · Optuna · Streamlit Deployment | Best Model  $R^2 = 0.9013$

Built and evaluated 18 regression algorithms (Linear Regression, Ridge, Lasso, ElasticNet, KNN, SVR, Decision Tree, Random Forest, ExtraTrees, Gradient Boosting, AdaBoost, XGBoost, LightGBM, CatBoost, and more) on an uncleaned Kaggle smartphone dataset. Applied Optuna TPE over 50 trials for automated hyperparameter tuning. XGBoost emerged as the best model ( $R^2 = 0.9013$ , MAE = 0.2102, MSE = 0.0948). Deployed as a real-time interactive Streamlit app with multi-currency output (PKR / USD / INR / CNY). The research paper is currently under submission to a journal.

[Live App](#) [GitHub Repo](#)

### Credit Card Fraud Detection – ML Classification System

Logistic Regression · Random Forest · XGBoost · SMOTE

Developed a classification pipeline to detect fraudulent credit card transactions. Applied Logistic Regression, Random Forest, and XGBoost on a heavily imbalanced dataset; used SMOTE and appropriate preprocessing to handle class imbalance. Evaluated using accuracy, precision, recall, and F1-score and deployed as a live Streamlit web app for real-time fraud detection.

[Live App](#) [GitHub Repo](#)

## PUBLICATIONS

### A Comparative Analysis of Machine Learning Regression Models for Smartphone Price Prediction with Optuna Hyperparameter Optimization and Streamlit Deployment

Under Review – Journal Submission 2026

Comprehensive comparative study evaluating 18 ML regression models with Optuna-based hyperparameter optimization. XGBoost was identified as the best model. Full IMRaD structure with 34 APA-cited references and a structured abstract.

## LANGUAGES

- English (Fluent)
- Urdu (Native)
- Pashto (Native)

## LINKS

-  GitHub  LinkedIn  
 Kaggle  Portfolio

## CERTIFICATIONS

- **NAVTTTC: Artificial Intelligence** (Machine Learning · Deep Learning · Communication) [View Certificate](#)
- **Microsoft Azure AI Fundamentals (AI-900)** [View Certificate](#)
- **DataCamp: Data Science for Business** [View Certificate](#)
- **Cisco: Introduction to Data Science** [View Certificate](#)
- **DataCamp: Introduction to Python** [View Certificate](#)
- **DataCamp: Introduction to SQL** [View Certificate](#)
- **DataCamp: Introduction to Excel** [View Certificate](#)
- **Typing.com: Typing Proficiency** [View Certificate](#)

## RESEARCH INTERESTS

Artificial Intelligence Researcher, Machine Learning, Deep Learning, Data Science, Data Analysis, Optimization, Natural Language Processing

## EXTRA ACTIVITIES

### LetTech Ramzan Series 2026 – One-Week Bootcamp

Entrepreneurship · AI Tools for Students · AI in IT Operations · AI Cybersecurity & SDGs · Career Crafting · Solutions That Save Lives [View Certificate](#)

**Career Direction Seminar** [View Certificate](#)