

# ADEEL IQBAL

AI/ML Engineer | Data Scientist

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🔗 [GitHub](#) | [LinkedIn](#) | [Portfolio](#)

## EDUCATION

<b>Bachelor of Electrical Engineering</b> Quaid-e-Awam University of Engineering, Science & Technology	Jan 2014 - Feb 2018
<b>Intermediate (Pre-Engineering)</b> C&S Degree College	May 2011 - Aug 2013

## CERTIFICATIONS

<b>Artificial Intelligence &amp; Data Science</b> Saylani Mass I.T. Training	Feb 2025 - Present
<b>Agentic AI</b> Saylani Mass I.T. Training	Sept 2025 - Present

## SKILLS

- **Programming Languages:** Python
- **Libraries & Frameworks:** Pandas, NumPy, SciPy, Matplotlib, Seaborn, Scikit-learn, FastAPI, Flask, SQLAlchemy, Streamlit, Gradio
- **Machine Learning & AI:** Machine Learning (ML), Deep Learning (DL), Natural Language Processing (NLP), Computer Vision, TensorFlow, Keras, PyTorch, OpenCV
- **Databases:** PostgreSQL, SQLite, Supabase
- **Tools & Platforms:** Git, GitHub, Power BI, Kaggle, Jupyter Notebook, Google Colab, VS Code, Cursor, Hugging Face, Docker, Vercel

## PROJECTS

### Drone Detection System | [Link](#)

- Deployed a real-time drone detection system using YOLOv11n achieving 94.3% mAP@50 with FastAPI backend and responsive web interface.
- Trained YOLOv11n model on custom drone dataset achieving 94.6% precision and 90.4% recall with only 5.5MB model size for efficient deployment.
- Built complete pipeline with automatic video format conversion (AVI to MP4) and side-by-side comparison interface for instant detection results.

### Alzheimer's Disease Detector | [Link](#)

- Built a transfer learning model using fine-tuned ResNet50 achieving 96.9% accuracy for multi-class dementia classification from brain MRI scans.
- Implemented proper preprocessing with class balancing through data augmentation for minority classes on 86,437 OASIS dataset images.
- Deployed production-ready Gradio web application with medical-themed UI for real-time predictions and confidence score display.

Spotify Music Recommendation System | [Link](#)

- Built a hybrid content-based recommendation system combining audio features similarity with popularity scoring, achieving fast real-time inference.
- Implemented advanced preprocessing with MinMax scaling and one-hot encoding, using cosine similarity for personalized music suggestions.
- Deployed an interactive Streamlit app with Spotify-inspired UI, featuring embedded track players and smart duplicate filtering.

Flood Probability Predictor | [Link](#)

- Developed an Artificial Neural Network achieving 99.98%  $R^2$  score to predict flood probability from 20 environmental and geographical risk factors.
- Applied MinMaxScaler preprocessing and early stopping techniques to prevent overfitting while maintaining high performance.
- Created feature importance analysis identifying key flood risk factors including encroachments, river management, and coastal vulnerability.

Rice Leaf Disease Classifier | [Link](#)

- Built a CNN-based classifier achieving 98.9% accuracy for detecting 4 major rice diseases (Bacterial Blight, Blast, Brown Spot, Tungro).
- Implemented multi-layer convolutional architecture with 80/20 split and early stopping, processing 224×224 images with data augmentation.
- Deployed farmer-focused Gradio interface with instant diagnosis, confidence scores, and treatment recommendations accessible through web browser.

Pregnancy Risk Detector | [Link](#)

- Deployed a Streamlit Machine Learning app to predict Pregnancy Risk (high/low) using health metrics and medical history data.
- Built an end-to-end pipeline with imputation, scaling, and SMOTE; hyperparameter-tuned a Random Forest Model achieving 99% accuracy.
- Enhanced usability with a user-friendly interface for structured data input and instant visual results.

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PORTFOLIO & LINKS

- **Portfolio:** [portfolio-adeeliqbal.vercel.app](https://portfolio-adeeliqbal.vercel.app)
- **GitHub:** [github.com/adeel-igbal](https://github.com/adeel-igbal)
- **LinkedIn:** [linkedin.com/in/adeeliqbalmemon](https://linkedin.com/in/adeeliqbalmemon)

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WORKSHOPS & HACKATHONS

- **AI Hackathon** - Zaitoon Ashraf I.T. Park | Karachi | 2025  
Collaborated with team to build Job Trend Analyzer, a web scraping application analyzing real-time job market trends across portals, identifying top skills, roles, and hiring locations.
- **Internet of Agents** - Lablab.ai | Remote | 2025  
Collaborated with team to build MediAssist, an AI-powered healthcare platform using multi-agent architecture for medication management, appointment scheduling, and personalized health recommendations.

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PERSONAL DETAILS

- **Location:** Karachi, Pakistan
- **Languages:** English, Urdu
- **Availability:** Intermediate