

ZAIN ALI

Machine Learning Engineer

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Hugging Face

Johar Town, Lahore, Pakistan
Kaggle

EDUCATION

University of Management and Technology, Lahore
MS, Artificial Intelligence

Feb 2025 – Present

- **Coursework:** Knowledge Representation & Reasoning, Deep Learning, Advanced Computer Vision, NLP

University of Education, Lahore
Bachelor of Information Technology

Nov 2020 – May 2024

- **Relevant Courses:** Data Structures, Algorithms, Database Systems, Machine Learning

PROFESSIONAL EXPERIENCE

7 Kings Code LLC, Lahore
ML/AI Developer

Jul 2024 – Present

- Architected end-to-end ML pipelines integrating **Twilio, Deepgram, and ElevenLabs APIs** for real-time customer support systems, enhancing ticket creation and email verification processes
- Developed RAG-based customer support calling agent using **LangChain and vector databases**, improving issue resolution by **30%** through context-aware responses
- Engineered outbound calling agent with anomaly detection models to proactively notify clients of system irregularities, reducing response time by **40%**
- Designed AI-driven email processing agent for automated ticket generation and WhatsApp notifications, streamlining customer communication workflows
- Fine-tuned **YOLOv11n** for mouse paw detection system, achieving **92% mAP** after custom annotation of 1,000+ images for behavioral analysis
- Contributed to backend development across multiple projects including 7 Kings Marketing, Property, Babutech, Medtek Services, focusing on scalable API integration and ML deployment

Lincoln Corner, Lahore
ML Research Intern

Oct 2023 – May 2024

- Assisted in astronomy-oriented ML research utilizing datasets from **PHL HWC, NASA Kepler Mission, data.gov, and ESA** for exoplanet classification and habitability assessment
- Performed data engineering, feature extraction, and model training using **CNNs, autoencoders, and ensemble methods**, achieving **95% accuracy** in exoplanet detection
- Co-authored research paper: *"Harnessing Modern AI in Exoplanet Habitability Assessment and Classification"* published in peer-reviewed journal
- Developed custom feature visualizations and anomaly detection pipelines for time-series analysis of Kepler mission data

KEY PROJECTS

AI-Powered Customer Support Calling Agent

7 Kings Code LLC, 2024

- Built voice-based support agent using **Twilio, Deepgram, and ElevenLabs**, enabling real-time ticket creation and issue categorization with **98% accuracy**
- Optimized conversational flow with NLP techniques, reducing average call handling time by **15%**

True AI: Job Application AI System

7 Kings Code LLC, 2024

- Built smart recruitment platform with **Gemini-powered calling bot** for automated candidate interviews via WebRTC
- Integrated voice biometrics, eye tracking, and facial motion detection for real-time verification and behavioral analysis
- Utilized **NVIDIA TITAN-based deep learning models** to improve screening accuracy and reduce fraudulent applications by **30%**

Product Recommendation System

University Project, UMT, 2025

- Designed knowledge-based recommendation engine using predicate logic, production rules, and frames with **Neo4j and MongoDB**
- Implemented advanced reasoning techniques delivering personalized suggestions, improving user engagement by **25%**

Automated Email-to-Ticket System

7 Kings Code LLC, 2024

- Developed AI agent for email parsing, Freshdesk ticket generation, and WhatsApp notifications, automating **80%** of support workflows
- Utilized **OpenAI's NLP models** for sentiment analysis and intent detection ensuring precise ticket prioritization

Outbound Anomaly Notification Agent

7 Kings Code LLC, 2024

- Engineered outbound calling system detecting anomalies in client data and initiating automated calls via Twilio
- Improved incident response efficiency by **35%** with integrated Deepgram for real-time speech synthesis

City Road Network Optimization

University Project, UMT, 2025

- Implemented shortest-path routing system using Uniform Cost Search, Dijkstra's algorithm, and KRR techniques
- Reduced average travel time by **20%** in simulated city traffic scenarios through dynamic route selection

TECHNICAL SKILLS

- **Programming & ML Frameworks:** Python, TensorFlow, PyTorch, Keras, Scikit-learn, Pandas, OpenCV, LangChain, Hugging Face Transformers
- **APIs & Integration Tools:** Twilio, Deepgram, ElevenLabs, OpenAI, Gemini, NVIDIA Nemo, Ultralytics YOLO
- **Databases & Storage:** Neo4j, MongoDB, MySQL, PostgreSQL, Vector Databases
- **Web Frameworks & DevOps:** Django, Flask, FastAPI, Git, Docker, AWS (EC2, S3), CI/CD Pipelines
- **AI/ML Specializations:** Deep Learning (CNN, RNN, Autoencoders), NLP, Computer Vision, RAG Systems, Knowledge Representation, Anomaly Detection, Fine-tuning
- **Data Analysis & Visualization:** Matplotlib, Seaborn, Feature Engineering, Interactive Dashboards
- **Domain Expertise:** Astronomy, Customer Support Automation, Healthcare AI, E-commerce, Urban Planning