Dheeraj Kumar

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SUMMARY

AI/ML Engineer specializing in Large Language Models, RAG pipelines, and multi-agent AI systems. Proven track record building production-ready AI applications using LangChain, TensorFlow, and FastAPI. Published researcher in computer vision and explainable AI with hands-on expertise in model optimization, deep learning, and intelligent system design. Passionate about collaborating with expert teams to apply cutting-edge AI technologies to solve complex real-world challenges through innovative data-driven solutions.

EDUCATION

Iqra University Karachi, Pakistan
Bachelor of Science in Software Engineering Oct 2021 – Jul 2025

TECHNICAL SKILLS

LLMs & AI Systems: LangChain, LangGraph, OpenAI GPT, RAG Pipelines, Multi-Agent Systems, Prompt Engineering

ML/DL Frameworks: TensorFlow, PyTorch, Scikit-learn, Keras, Hugging Face Transformers, OpenCV

Data Science: Pandas, NumPy, Matplotlib, Seaborn, Time-Series Analysis, Statistical Modeling, Feature Engineering

Vector Databases: Pinecone, FAISS, Semantic Search, Embeddings (Sentence-BERT, HuggingFace)

Programming: Python (Advanced), SQL, JavaScript, Java, C#

MLOps & Tools: FastAPI, Streamlit, Docker, Git/GitHub, Jupyter, Postman, Model Deployment

Model Optimization: Pruning, Quantization, Transfer Learning, XAI (Grad-CAM, SHAP)

AI/ML PROJECTS

IQRAversity – Virtual 3D Campus Tour | *Unity, Blender, C#, AI Integration* 2025

- Developed an immersive VR-based 3D virtual university campus simulating real-world academic environments using Unity and Blender
- Integrated an AI-powered interactive chatbot for real-time student guidance, query handling, and navigation support
- Designed and tested VR navigation and AI-driven response mechanisms to enhance user engagement and learning experience

Time-Series Anomaly Detection System | *Python, FastAPI, Prophet, Isolation Forest, ML Pipeline* 2025

- Built end-to-end ML pipeline combining forecasting (Prophet) and anomaly detection (Isolation Forest) for real-time monitoring
- Deployed production REST API with FastAPI serving 1000+ predictions/hour with 95%+ detection accuracy
- Designed interactive Streamlit dashboard with real-time visualization and comprehensive performance metrics (F1, AUC-ROC)
- Implemented automated model retraining pipeline and data preprocessing for continuous improvement

Real-Time Emotion Detection | *TensorFlow, OpenCV, CNN, Computer Vision, Deep Learning* 2025

- Developed CNN-based emotion recognition system achieving 92% accuracy on FER2013 dataset across 7 emotion categories
- Optimized inference pipeline with OpenCV for real-time video processing at 30 FPS with sub-50ms latency
- Applied transfer learning (VGGNet, ResNet) and data augmentation increasing model generalization by 15%

PAK Industry Insight Platform | *TypeScript, React, Next.js, Data Analytics, API Integration* 2026

- Built comprehensive industry analysis platform with data-driven insights and interactive visualizations for market intelligence
- Integrated multiple data sources and APIs for real-time data aggregation, processing, and trend analysis

Experience

Quality Assurance Intern Oct 2025 – Dec 2025
Systems Limited *Karachi, Pakistan*

- Collaborated with data science teams to test and validate AI/ML models ensuring quality and reliability in production systems
- Performed data validation, edge case analysis, and functional testing on machine learning pipelines improving model accuracy
- Applied agile methodologies using Jira and Confluence for documentation and cross-functional team collaboration

UI/UX Designer Jan 2024 – Jan 2025
Nass Enterprises Private Limited *Karachi, Pakistan*

- Designed intuitive interfaces for AI-powered analytics dashboards improving user engagement and data interpretation by 30%
- Collaborated with data scientists to visualize ML model outputs, predictions, and performance metrics effectively

Front-End Developer Intern May 2023 – Dec 2023
Mind Digital *Karachi, Pakistan*

- Developed interactive data visualization components and dashboards for AI/ML applications using JavaScript frameworks
- Built responsive interfaces integrating REST APIs for real-time model inference and data processing pipelines

Certifications & Awards

Introduction to Modern AI | Introduction to Scrum Master | Published Researcher (2 peer-reviewed papers)