Hello. I'm Muhammad Faizan Khan

And I am A **Machine Learning Engineer**

ABOUT ME

A graduate with a degree in Computer Science, specializing in Machine Learning, driven by a passion for exploring the intricacies of artificial intelligence and its applications. Known for being a quick learner and highly enthusiastic about the field of Machine Learning, My goal is to obtain certifications like AWS Certified Machine Learning - Specialty, Microsoft Certified: Azure AI Engineer Associate, and Google Professional Machine Learning Engineer, augmenting my proficiency in this dynamic field.

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Work Experience

AI Engineer Present

NexaQuanta

As an AI Engineer and Computer Vision Engineer at NexaQuanta, I worked on building smart AI and computer vision solutions for real-world problems. I fine-tune deep learning models to detect, track, and recognize objects in images and videos. I also helped turn these models into complete systems that could be used in real-time for automation and quality checking. Working with various teams, I ensured that the solutions were accurate, fast, and ready for real-world use.

Senior Computer Vision and AI Specialist 2025-2025

Meta Smart Factory-Remote

As a Senior Computer Vision and AI Specialist at Meta Smart Factory since February 2025, I spearhead the development of cutting-edge computer vision and machine learning solutions to optimize industrial processes. Working in a dynamic, fully remote environment, I collaborate with cross-functional teams to implement AI-driven strategies that enhance operational efficiency and predictive maintenance.

AI & Machine Learning Engineer 2024-2024

Edraak Systems

At Edraak Systems, I work as a Machine Learning Engineer, focusing on developing advanced machine learning models to improve operational efficiency. My role involves working with computer vision and natural language processing (NLP), where I preprocess data, build and optimize algorithms, evaluate model performance. This experience has strengthened my expertise in both machine learning and AI applications.

Machine Learning Engineer 2023-2024

HiTech Provider

Over the past year at HiTech Provider, I have focused on developing and deploying cutting-edge machine-learning models that drive significant improvements in operational efficiency and customer experience. My work involved extensive data preprocessing, building and optimizing sophisticated algorithms and evaluating model performance through advanced techniques. This role has sharpened my expertise in machine learning and deepened my understanding of AI applications.

Skills

- Python, C++, Swift, SQL, MySQL, HTML, CSS, Apache Kafka
- TensorFlow, Keras, scikit-learn, PyTorch, OpenCV
- Object Detection: YOLOv5/v7/v8, Faster R-CNN, SSD
- Problem-solving & debugging
- Tracking Algorithms: Deep SORT, ByteTrack, Optical Flow
- Custom Dataset Creation & Annotation: LabelImg, Roboflow
- Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Transformers
- Image classification, object detection (YOLO, Mask R-CNN)
- Image preprocessing: resizing, normalization, augmentation
- Designing, training, and fine-tuning machine learning models
- Supervised and unsupervised learning algorithms
- Ensemble methods, boosting, and neural network architectures
- Hyperparameter tuning, cross-validation, model evaluation
- Data cleaning, transformation, augmentation
- Hyperparameter tuning and cross-validation

My Education

BS computer Science

Qarsi University

CGPA 3.76 or 94%

FSc Pre Engineering

PakTurk Int'l College

Matriculation in Science subjects

Javed Public High School

Certifications

- Completed the Introduction to Neural Networks course, gaining foundational knowledge in neural network design and key concepts like backpropagation and activation functions. Developed skills in applying neural networks to basic AI tasks.
  Verification Link:
  https://www.mygreatlearning.com/certificate/XLUFYWCJ

- Completed the Neural Networks and Deep Learning course by DeepLearning.AI on Coursera, gaining expertise in designing, training, and optimizing neural networks using Python and deep learning techniques. Acquired skills in backpropagation and building AI models for complex tasks.
  Verification Link:
  https://coursera.org/verify/7XOQSDSHE9I1

- Completed a course in Machine Learning Modeling, gaining hands-on experience in designing, training, and evaluating machine learning models. Learned to select appropriate algorithms, preprocess data, and assess model performance using metrics to build accurate, scalable models for real-world applications.
  Verification Link:
  https://www.mygreatlearning.com/certificate/FZQRNWEO

- Completed a course on Machine Learning Pipeline, learning to build end-to-end workflows for machine learning models. Gained expertise in data preprocessing, model training, evaluation, and deployment, with an emphasis on optimizing performance and scalability across different stages of the pipeline.
  Verification Link:
  https://www.mygreatlearning.com/certificate/KIEWURZH

Projects

Car Pose Detection & 360° Turntable Extraction

Tools & Frameworks:

- **Platform:** iOS
- **Frameworks:** Core ML, Vision, AVFoundation
- **Technologies:** Computer Vision, Video Frame Extraction, Memory-Optimized Streaming
- **Use Cases:** Automotive Photography, Virtual Showrooms, 3D Modeling, 360° Video Analytics

Real-Time License Plate Detection & Tracking

Tools & Frameworks:

- **Languages:** Python
- **Frameworks/Libraries:** OpenCV, PaddleOCR, HyperLPR3, DeepSORT, ONNX
- **Technologies:** Computer Vision, Object Tracking, OCR, Multilingual Character Recognition (English → Arabic)

Real-Time Object Tracking and People Counting

Tools & Frameworks:

- **Frameworks/Libraries:** YOLOv3, OpenCV
- **Technologies:** Real-time Object Detection, Centroid Tracking, People Counting, Object Re-identification
- **Platform:** Google Colab (for Implementation & Visualization)

Car Price predicting Model

Tools & Frameworks:

- **Languages/Libraries:** Python, Scikit-learn, XGBoost, SHAP
- **Techniques:** Gradient Boosting, SVR, Lasso, Ridge, Bayesian Optimization, K-Fold Cross-Validation
- **Technologies:** Machine Learning, Predictive Modeling, Feature Importance Analysis
- **Use Cases:** Car Price Prediction, Dynamic Pricing, Data-driven Decision Support.

Worker Safety Compliance Monitoring System

Tools & Frameworks:

- **Frameworks:** YOLO (Object Detection), OpenCV
- **Technologies:** Real-time Video Analytics, Apache Kafka (Stream Processing), PPE Compliance Monitoring
- **Deployment:** Scalable Industrial Surveillance System
- **Use Cases:** Workplace Safety Automation, Compliance Analytics, Real-time Alerting

Medical Blister Quality Control System

Tools & Frameworks:

- **Frameworks:** YOLO (Custom Object Detection)
- **Tools:** Roboflow (Dataset Annotation & Management)
- **Technologies:** Computer Vision, Deep Learning, Automated Quality Assurance
- **Use Cases:** Pharmaceutical Defect Detection, Manufacturing Inspection Automation

Pallet Color Detection & Counting System

Tools & Frameworks:

- **Frameworks/Libraries:** OpenCV, YOLO (Object Detection)
- **Technologies:** Real-time Object Tracking, Color-based Classification, Apache Kafka (Stream Processing)
- **Use Cases:** Warehouse Automation, Inventory Management, Smart Logistics Analytics

Pose Estimation for Human Body Analysis

Tools & Frameworks:

- **Frameworks/Libraries:** OpenPose, OpenCV
- **Technologies:** Pose Estimation, Keypoint Detection, Human Skeleton Tracking, Real-time Video Processing
- **Platform:** Google Colab (Visualization & Deployment)
- **Use Cases:** Sports Analytics, Healthcare Monitoring, Human-Computer Interaction