Jalal Khan

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PROFILE SUMMARY

Machine Learning Engineer with hands on experience in developing and optimizing ML/DL models using Python, TensorFlow, and PyTorch. Skilled in data preprocessing, EDA, and deploying classification and regression models for real-world applications. Adept at leveraging transfer learning and Generative AI tools like Hugging Face, LLMs, RAG. Strong academic background in Electrical Engineering with a focus on deep learning and computer vision projects.

EXPERIENCE

National Center of Artificial Intelligence UET Peshawar ***Jan 2025 – Present***

Machine Learning Engineer Peshawar

- Conducted extensive data cleaning, preprocessing, and exploratory data analysis to identify trends and patterns in data and to prepare datasets for machine learning training, ensuring data integrity and quality for accurate model development.
- Developed and fine-tuned ML models like Random Forest, XGBoost, CNNs, ResNet and YOLO, leveraging Python Programming for real-world applications in both Classification and Regression Problems.
- Optimized deep learning models using TensorFlow & PyTorch, implementing hyperparameter tuning.
- Presented research findings and model performance metrics like precision, recall, F1-score, ROC-AUC to senior stakeholders, enabling data-driven decision-making.

SKILLS

Programming Languages: Python, C++

ML/DL Libraries: Matplotlib, Pandas, NumPy, Sklearn, TensorFlow, Pytorch and Keras

ML/DL Algorithms: Classification & Regression (Naive Bayes, KNN, SVM, Decision Tree, Random Forest, Linear & Multiple Linear Regression), Deep Learning (CNN, ResNet, AlexNet, VGG16, YOLO, Transfer Learning).

Generative AI: Hugging Face, RAG, Groq API.

Soft Skills: Problem Solving, Team Collaboration, Effective Communication, Project Planning

PROJECTS

Identification of Geometric Shapes and Estimating its size through CNN ***Sep 2020 – Aug 2021***

- Developed a CNN model for the identification of geometric shapes (triangle, circle, square, star) using TensorFlow.

Real-Time License Plate Detection using YOLOv8 and EasyOCR ***May 2025***

- Developed a real-time license plate recognition system by training a YOLOv8 model for detection and integrating EasyOCR for text extraction, achieving accurate end-to-end results on images and video using OpenCV and Roboflow.

Used a Pre-Trained Image Classifier to Identify Dog Breeds ***Nov 2022 -- Apr 2023***

- Utilized pre-trained models (ResNet, AlexNet, VGG16) to classify dog breeds from the ImageNet dataset.

CNN Classifier to Identify Different Flower Types ***Nov 2022 -- Apr 2023***

- Built a flower classification model using Python, with robust preprocessing, feature engineering, and evaluation techniques to achieve high prediction accuracy.

EDUCATION

University of Engineering and Technology Peshawar ***Sep 2017 – Sep 2021***

Bachelor of Science in Electrical Engineering **Peshawar**

Relevant Coursework: FYP Project in AI, Gained expertise in Deep Learning, CNN, Data Cleaning, EDA, Sklearn, Matplotlib

CERTIFICATIONS

Nanodegree in AI Programming with python | Udacity ***Nov 2022 – Apr 2023***

Machine Learning Specialization | Coursera ***Feb 2025 – Apr 2025***

PEC Generative AI Bootcamp | PEC ***Apr 2025 – May 2025***