Muhammad Ahsan Mukhtar

Machine Learning Engineer

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EDUCATION

BS CIS (2016 - 2020)
Computer and Information Sciences
CGPA: 3.45
PIEAS, Islamabad.

Major Subjects: Computer Vision, Fundamentals of Image Processing, Artificial Intelligence, Computational Intelligence, Internet of Things.

SKILLS

1. Libraries and Languages

- Python, C, C++
- TensorFlow 2.0, Keras
- OpenCV, NLTK
- Matplotlib, Pandas
- Django, Flask
- SQL, Mongo db.

2. Machine Learning

- Linear Regression
- Decision Tree
- Random Forest
- Support Vector Machine
- K-Nearest Neighbor (KNN)
- Logistic Regression
- Naive Bayes

3. Deep Learning

- YOLO, Mask RCNN
- Fast RCNN, RetinaNet
- RNN, LSTM, CRNN
- ResNet, VGG
- Generative Adversarial Network (GAN)

PROFILE

I'm a machine learning engineer currently working at Techylem. Self-improvement and passion for always learning and improving my machine learning and data science skills makes me stand out from others. Founding member and Chairperson of IEEE Computer Society PIEAS in 2019. Able to translate client requirements to machine learning solutions for best user and administrative experience.

EXPERIENCE

Techylem | Machine Learning Engineer
August 2020 - Present

1. Yellow Cards
Company Project Private Repo
- Developed a custom OCR for business cards using a CRAFT text detector and custom-built Convolution Recurrent Neural Network (CRNN) for text recognition.
- Pre-processed and annotated image data for RCNN training.

2. ORFOL - orfol.com (Under Progress)
Company Project Private Repo
- Trained deep learning detection models for a lost and found application that can detect and identify objects and extract useful features from video and image files.
- Scraped, cleaned and annotated an image dataset in more than 20 classes for detection models.

3. Vicinality - vicinality.com
Company Project Private Repo
- Developed the friend recommendation system for Vicinality by using natural language processing (NLP) and K-means clustering to match common attributes.

PIEAS, Pattern Recognition Lab | AI Research Fellowship
September 2019 – May 2020

Cancer Detection in WSI using Deep Learning
repo: github.com/ahsan44411/Cancer-Detection

- Developed a deep learning model for detection and segmentation (MASK RCNN) and classification (CNN) of malignant and non-malignant cells.
- Pre-Processed Whole Slide Images (WSI) by using cell counting to retain tissue dense regions.

CERTIFICATIONS

• Introduction to Artificial Intelligence ([coursera](#))

• Statistics for Data Science using Python (**[udemy](#)**)

• Machine Learning (In Progress) (coursera)

• Certification in Microsoft Word ([certificate](#))

Social Activities

• Chairperson IEEE PIEAS Computer Society.

• Convenor PIEAS Olympiad' 19.

• Volunteer teacher for un-privileged students.

• Best parliamentary debate award at Intra-PIEAS debates.

Quest Lab, Fast House | AI Intern
June 2019 – August 2019

1. First Person View Drone Racing
repo: https://github.com/ahsan44411/FPV-Drone-Racing

• Developed the drone control system using mobile VR and user head motion.

• Worked on smooth video and data transmission using UDP in three-tier network.

2. Facial Recognition System for selfie drone

• Developed a Facial Recognition System for selfie drones using FaceNet API and Image Processing.

PERSONAL PROJECTS

Natural Language Processing (NLP):

1. Comment Sentiment Analysis
repo: https://github.com/ahsan44411/comment-sentiment-analysis

• Applied pre-processing steps on text data like Tokenization, Padding and Embedding.

• Trained three deep learning models for sentiment analysis of comments and compared their results using AUC score.

2. Tag Classification using Machine Learning:
repo: https://github.com/ahsan44411/Tag-Classification

• Cleaned and pre-processed scraped text data from YouTube.

• Trained 5 different machine learning models for tag classification and compared their result using accuracy measure.

3. Text Similarity
repo: https://github.com/ahsan44411/Text-Similarity

• Applied Word2Vec and Glove to check text similarity between sentences which can be used for comparing reports.

Computer Vision (CV):

1. YOLO Object Detection
repo: https://github.com/ahsan44411/YOLO-Object-Detection

• Created, cleaned and annotated a custom traffic dataset containing nearly than 5000 images.

• Trained and deployed YOLO model on Flask server.

2. Fake Face Generation using P-GANS
repo: https://github.com/ahsan44411/progressive_growing_of_gans

• Implemented Progressive GANS on Celeb dataset to generate fake faces that were indistinguishable from to the human eye.