syedwaleedhyder
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SYED WALEED HYDER

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Karachi

WORK EXPERIENCE

Machine Learning Engineer — **OMNO AI, Lahore** — *September 2021 – Present*

Trafflytic. Platform for traffic analysis

- *Using tracking-by-detection for tracking of vehicles on highways, intersections, and roundabouts.*
- *Used YOLOv5 and YOLOX for vehicle detection in conjunction with DeepSORT for tracking and Re-identification.*
- *Working on automated parking lot occupancy detection.*

RetailWiz. Platform for targeted advertisement using facial features.

- *Used YOLOv5 trained on CrowdHuman dataset for person detection, in conjunction with ByteTrack for tracking.*
- *Extracted gender, age and emotions from the facial crop and use it to recommend the advertisement.*
- *Implemented algorithms for dwell time and gaze time to evaluate the response of the advertisement.*

Machine Learning Consultant — **Systems Limited, Karachi** — *August 2020 – August 2021*

Regeneron Pharmaceuticals. Platform for data analysis of Patient Wearable Devices

- *End-to-end platform development using Apache Nifi for data ingestion, Spark for post-ingestion, Hive and AWS Redshift for analytics.*
- *Gait Analysis using machine learning (ML) algorithms on time series-data from sensors of Moticon device.*
- *Activity Recognition using ML algorithms on time-series data from accelerometer of Actigraph device.*

Machine Learning Engineer — **IOPTIME, Islamabad** — *June 2020 – July 2020*

NailsRoom. Nails Segmentation in human hands using deep learning

- *Improved the mean IOU score by 100% using the existing data of nails. Increased the speed of the model on Android from 10 FPS to 25 FPS. Used the modified U-Net to segment the nails from hands.*
- *Used loss functions to characterize long-tailed distributions since the foreground pixels were dominant.*

Research Intern — **SiPEO, Technical University of Munich, Germany** — *Summer 2019*

Slum mapping in satellite imagery using deep learning

- *Collected the image data on slums for Karachi and Islamabad, filtered the data.*
- *Used the Fully Convolutional Networks (FCN) to segment the slums from non-slums.*
- *Using loss functions to characterize long-tailed distributions since in majority of slum datasets the foreground pixels are dominant.*
- *Using transfer learning and adversarial domain adaptation to align the embeddings of the Karachi and Mumbai slum dataset.*

Research Assistant — **TUKL-NUST R&D Center, Islamabad** — *Fall 2018*

Real Time Vehicle Detection & Tracking in infrared video-feed

- *Used YOLOv3 to detect and Kalman Filtering to track the vehicle objects in a non-polarized infrared real time video feed.*

Research & Development Intern — **CVML Lab, NUST, Islamabad** — *Summer 2018*

Vehicle tracking in unconstrained natural scenes using Siamese networks and Kalman Filter

- *Researched and implemented an end-to-end trainable Siamese Network with Kalman Filtering*

EDUCATION

Islamabad — **National University of Sciences and Technology (NUST)** — *Sep 2016 – May 2020*

- *Bachelor of Engineering in Software Engineering, CGPA: 3.65, Percentage: 91%*
- **Coursework**: *Machine Learning, Computer Vision, Data Structure and Algorithms, Operating Systems, Database Systems, Linear Algebra, Calculus (I & II), Probability & Statistics*

Technologies

Python; Tensorflow; PyTorch; scikit-learn; opencv; Pandas; R; Docker; Apache Nifi, Apache Spark, Redshift

ADDITIONAL EXPERIENCE AND AWARDS

- **Teaching (2016-2020):** *Taught and guided my peers and junior students in CS and Mathematics courses.*
- **Dean's list (2016-2019):** *Dean's list for high achievers.*