syedwaleedhyder
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# SYED WALEED HYDER

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Karachi

## WORK EXPERIENCE

*Machine Learning Engineer* — **Systems Limited, Karachi** — *August 2020 – Present*

**Intelligent Sensor Data Platform. Platform for analysis of data from Patient Wearable Devices**

- *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.*
- *End-to-end platform development using Apache Nifi, Spark, Hive and AWS Redshift*

*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 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**

- *Implemented the existing techniques to detect and 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*
- *Deployed it on TensorRT to achieve real time results.*

## 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*

## OTHER PROJECTS

**Image Segmentation of cell nuclei using deep learning (2019):**

- *Image segmentation using U-Net was done on the nuclei cells. Implementation was done in Tensorflow.*
- *Machine learning concepts (cross-validation, regularization, loss functions) were applied in the project.*

## 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.*

## Technologies

- Python; Tensorflow; scikit-learn; opencv; Pandas; R;
- Linux; PyCharm; Jupyter Notebook;