Nosherwan Akram

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Education

2016–Present **Bachelor of Science in Software Engineering**, *SEECS, NUST*, Islamabad, Pakistan.
CGPA – 3.57/4.00

Jan 2019 – May 2019 **Teaching Assistant**, *SEECS, NUST*, Islamabad, Pakistan.
Course facilitator for "Research Methodology" in Spring 2019 with Prof. Dr. Faisal Shafait. Responsibilities included marking assignments, checking for plagiarism and help sessions with students.

Experience

May 2019 – Present **Research Intern** | **German Research Center for Artificial Intelligence**, *DFKI*, Kaiserslautern, Germany.
Table Structure Extraction & Handwritten Text Recognition: I work in a team on a project funded by DAAD in collaboration with DFKI and TUKL-NUST. I am in-charge of designing and developing a Handwritten Text Recognition module that will used in coherence with Table Structure Extraction module. This will be used to digitize and analyse Rawal dam dataset and medical patient records.

Jan 2019 – Present **Machine Learning Engineer** | **Computer Vision Engineer** | **Data Scientist**, *UPWORK*, Islamabad, Pakistan | Profile |.

- **Time Series Foresting :** I built LSTM models for time series analysis, forecasting and prediction on tensorflow.js for a client.
- **Price Strategy Classification :** I produced LSTM algorithms for a client to classify if long, short or do-noting were to be used for selling and purchasing of stocks.
- **Object Detection :** I helped a client set up and train darkflow on a custom dataset for object detection purposes.
- **FindInfo.com Search Engine:** I deployed several deep learning models on an online platform to be used in web applications.

June 2018 – May 2019 **Research Assistant** | **TUKL-NUST R&D center on Artificial Intelligence and Machine Learning**, *SEECS, NUST*, Islamabad, Pakistan.

- **Capsule Networks :** I worked in a team for implementation and further modification of Capsule Networks on a classified dataset as part of a research endeavor.
- **The Complete Self-Driving Car - Applied Deep Learning :** I reproduced the results of the research paper *End to End Learning for Self-Driving Cars*. I implemented the proposed CNN architecture and gathered data using self driving car simulator by udacity.
- **Object Detection :** I did instance segmentation using mask RCNN on MS-COCO and other sample datasets. I further extended mask rcnn functionality on videos.
- **Deep Learning & Computer Vision :** Understood and implemented different Deep Learning architectures and Computer Vision algorithms such as Resnet, AllCNN, Alexnet, VGG, Googlenet, YOLO, RCNN, SSD.
- **Reinforcement Learning:** I worked in a team to reproduce the results of the research paper *Control of a Quadrotor with Reinforcement Learning* and taught a drone to fly using MonteCarlo algorithm.

Sept 2017 – June 2017 **Android Developer Intern**, *Trevor Softwares*, Islamabad, Pakistan.
I learned to use android studio and built several apps such as celebrity guessing game, weather prediction app and itinerary/ location log app.

Scholarships and Awards

Feb 2019 Research internship offer from Technical University of Munich, Munich, Germany (funded by DAAD, Passed).

Feb 2019 Research internship offer from Technical University of Kaiserslautern, Kaiserslautern, Germany (funded by DAAD, Passed).

Jan 2019 Research internship offer from ARTE Lab, University of Insubria, Italy (partially funded by University of Insubria, Passed).

Aug 2019 CodeU retreat in Singapore for participating in Google CodeU program (funded by Google APAC)

Projects

Summer 2019 **Stock Prices Forecaster**

I pre-processed and extracted useful features from stock market data for one year, 2018. Then I built multi-variate and multi-step LSTM models to predict up to 15 days into the future using the data.

Fall 2017 **Google CodeU Program**

* Worked with a team to design and implement a web application using Java, JavaScript, HTML and CSS over the course of 10 weeks, using Google Cloud Platform APIs.
* Practiced industry best practices such as: contributing to open source software using Git and GitHub, conducting code reviews with/for teammates, extending an existing codebase, participating in distributed development, designing new components and interfaces and leading them to completion.

Oct 2019 **Deep Surveillance - Facial Emotion, Age and Gender Recognition System**

I built an age and gender classifier and also an emotion detector and combined them together and deployed the final model an online.

Technical Skills

Programming: Python, Java, C++, Javascript

Frameworks: Scikit-Learn, Numpy, Pandas, Matplotlib, Tensorflow, Keras, openCV

Web Development: **FrontEnd**- HTML, CSS, Bootstrap, jquery, React.js, Javascript
BackEnd- Command Line, Python, Django, Node.js, Express.js

Databases: MySQL, MongoDB

Miscellaneous: Git, Linux, Bash

Coursework

Core Courses: Calculus I, Linear Algebra, Design and Analysis of Algorithms, Calculus II, Discrete Mathematics, Data Structures and Algorithms, Database Systems, Probability and Statistics, Software Engineering, Operating Systems, Fundamentals of ICT, Machine Learning, Numerical Methods, Software Project Management*, Digital Image Processing*,Speech and Image Processing*

* -To be completed by Jan 2020