Python, SQL, Java, MATLAB, HTML

SYED ZAIN ALI BAQUAR

Machine Learning Engineer

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Recent UCSD graduate specialized in Machine Learning, combining a strong mathematical mind with a philosophers heart. Determined to use his knowledge for the ever-growing potential of artificial intelligence.

EDUCATION

B.S in Cognitive Science specializing in Machine Learning & Neural Computation

UCSD (University of California, San Diego)

September 2015 - December 2019

EXPERIENCE

Business Analyst

Visionet Systems Inc

May 2020 - present Cranbury, NJ

- Developed various pipelines for purposes like customer segmentation, supply chain analysis and time series forecasting using Python, SQL and Azure.
- Collaborated with data engineers to create and manipulate large databases to import from for data exploration, visualization and analysis.

Research Assistant

UCSD (University of California, San Diego)

October 2018 – June 2019 San Diego, CA

- Collaborated with a team supervised by Dr. Gedeon Deak and Dr. Tzyy-Ping Jung in the Swartz Center for Computational Neuroscience (SCCN) at UCSD.
- Conducted experiment to observe brain dynamics during social decision making using EEG and Pupil Labs eye tracking software.
- Programmed the game used in the experiment in Python as well as performed the necessary data analysis by evaluating EEG and eye tracker results in MATLAB.
- Research published by the Kavli Institute of Brain & Mind.

Intern

Pakistan Air Force

June 2017 – August 2017 Karachi, Pakistan

- Audited numerous aerospace engineers on jet engines. Specifically, the inner components and maintenance of all parts of the engine .
- Analyzed the process of overhauling damaged engines, by going through the stages of disassembly and reassembly.
- Aided in the reconstruction of a WP-7B4 engine by installing the high pressure turbine.

SKILLS AND TOOLS

- PyTorch, TensorFlow/Keras, OpenCV, SQL, scikit-learn
- Node.js, Visual Studio, Anaconda, SQL Server Management Studio
- Windows, Linux, EEGLab

PROJECTS

FindARoomate

Node.js

- Developed a web application that aids the user in finding a place to live by matching user preferences.
- Implemented Google and Facebook APIs to improve location functionality, accessibility and analytics.
- Improved user experience by creating a fluid interface to interact with.

Medical Machine Learning

Python 3

- Predicted the occurrence of cardiovascular disease in patients to an accuracy of 75% and Type 1 error of 16% using principal component analysis and support vector machines.
- Detected early onset Alzheimers disease to an impressive accuracy 96% with and false positive and negative rates at under 0.05% using support vector machines.
- Implemented a support vector machine to use radius, texture, compactness and concavity to detect breast cancer. The model achieved an accuracy of 95% with false positive and negative rates under 0.05%

Object Detection Model

Python 3

- Built a convolutional neural network to detect objects in an image by using YOLO v3 architecture.
- Updated the model to detect objects in video by predicting labels at each frame of the video.
- Trained the model on the COCO dataset.

Music Generating Neural Network

Python 3

- Built a neural network to generate music by using a Long Short Term Memory architecture in the model.
- Trained the model on a corpus of pieces of classical music by vectorizing MIDI tokens in a similar fashion as Word2Vec.
- Evaluated transitional probabilities between tokens by using a softmax activation function.

PUBLICATIONS

Decision-Making in a Social Multi-Armed Bandit Task: Behavior, Electrophysiology and Pupillometry