SYED ZAIN ALI BAQUAR

Machine Learning Engineer - University of California San Diego

@ sbaquar@ucsd.edu 818-852-9817 San Diego, CA zainbaq.netlify.com/ linkedin.com/in/zainbaq
github.com/zainbaq

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

EXPERIENCE

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 to evaluate 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, through the stages of disassembly and reassembly.
- Aided in the reconstruction of a WP-7B4 engine. Installed the high pressure turbine.

SKILLS AND TOOLS

- Python, MATLAB, Java, HTML, JavaScript
- Pytorch, TorchVision, OpenCV, CUDA, EEGLab
- Node.js, Tkinter, Visual Studio, Heroku, PuTTY
- Jupyter Notebook, Linux, RStudio, FL Studio

COURSEWORK

- Cognitive Foundations of Mathematics
- Deep Learning & Natural Language Processing
- Interactive Design
- Modeling & Data Analysis
- Neuroanatomy & Physiology, Systems Neuroscience
- Object Oriented Programming: Java
- Supervised Machine Learning Methods
- Sensation & Perception, Learning & Memory, Language

LANGUAGES

- English
- Urdu

PROJECTS

FindARoomate

- Developed a web application that aids the user in finding a place to live.
- Implemented Google and Facebook APIs to improve location functionality, accessibility and analytics.
- Matched users based on profile matchmaking using entry data.

Music Generating Neural Network

- Built a Long Short Term Memory Recurrent Neural Network to generate music
- Trained the model on a corpus of pieces of classical music.
- Implemented a softmax activation function to evaluate transitional probabilities between MIDI tokens

Object Detection Model

- Built a Convolutional Neural Network based off YOLO v3 architecture to detect objects.
- Implemented this model on images as well as videos.
- Trained the model on the COCO dataset.

Cardiovascular Disease Detection

- Created an algorithm to detect the occurrence of cardiovascular disease in patients.
- The model managed to achieve a prediction accuracy of 75 percent and a Type I error rate of 16 percent
- Features included body mass index, systolic and diastillic blood pressure and other medically relevant artifacts

INTERESTS

- Artificial Intelligence
- Aeronautics
- Brain Computer Interfaces
- Computer Vision
- Engineering

PUBLICATIONS

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