

Kevin Kuo

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EDUCATION

PENNSYLVANIA STATE UNIVERSITY | B.S IN COMPUTER SCIENCE
College of Engineering | University Park | State College, PA | GPA: 3.16 / 4.0

Expected May 2021

SKILLS

Python < Preferred > // Java // JavaScript // C // C++ // Linux // OpenCV // Scikit-learn // Tensorflow

WORK EXPERIENCE

D.A.T.A LAB | ANDROID APP DEVELOPER

Oct 2018 – Jan 2019 | Leonhard Building, State College, PA

- Worked on the development of an Android app that calculates the heart rate through time series facial imagery data, funded by the Bill and Melinda Gates Foundation.
- Translated kalman filter and signal processing algorithms from Python into static proxies using Chaquopy in order to implement the code into Java.
- Implemented Singleton design pattern in Java to improve the architecture of the application for real time data visualization.

LUNAR LION | SOFTWARE ENGINEERING INTERN

May 2018 – Aug 2018 | Research Center C, State College, PA

- Created the communication system in Python for Peroxide Engine Test Stand to send telemetry & command data between Ground Control Station and Guidance, Navigation, & Control subsystem using ZeroMQ.
- Automated testing procedure by adding the flight profile and debugged the old UI of Ground Control Station. Both in C#.
- Detected failure of the engine by implementing softkill which processed thermocouple, pressure transducer and load cell data readings using Python.

RESEARCH

INTELLIGENT VEHICLE & SYSTEM GROUP | UNDERGRD. RESEARCHER

Jun 2018 – Present | State College, PA

- Implemented linear discriminate analysis (LDA) and support vector machine (SVM) to classify EEG signals between rest, right hand, and left hand movements using an online EEG motor imagery data set using Python and Scikit-learn.
- Classified forearm EMG data into joystick control with butterworth bandpass filter, cubic spline interpolation model, Hilbert transform, amplitude envelope function and linear discriminate analysis (LDA).
- Implemented linear regression analysis model of a research paper using linear algebra techniques to filter out unwanted EOG artifact signals from the EEG data set with just Python.

EXTRACURRICULAR ACTIVITIES

DISNEY CONSULTING PROJECT | PROJECT LEAD

Aug 2017 – Present | State College, PA

- Lead a team of 8 to create a movie analysis tool based on the continuation of the project from Spring 2018.
- Created a retrieval based chatbot with personalities based on Disney movie characters using natural language processing (NLP) methods - Spring 2018.
- The Chatbot was proposed to the Director and Manager of the Data & Analytics at Walt Disney Animation Studios, which successfully received continuation of the project for Fall 2018 to 2019.
- Hackathon: Implemented K-mean Clustering algorithm to compute the optimal coordinates for setting up emergency relief camp, in the event of a natural disaster, given users' critical data gathered by the chatbot.

UNMANNED AERIAL SYSTEM (UAS) | COMPUTER VISION SUB TEAM

Aug 2017 – Present | State College, PA

- Created drone's software to detect targets on the ground given the camera feeds.
- Extracted the relevant areas of interests in the images using OpenCV's saliency algorithm, currently building a synthetic image data set for training a convolution neural network (CNN).

PERSONAL PROJECT

FACEBOOK AI CHATBOT | RESPONSE GENERATION & SENTIMENT ANALYSIS

July 2017 – Present

- Utilized Messenger's UI to generate conversations with users and performed sentiment analysis on each utterance.
- Used Sequence to Sequence model (LSTM) with attention decoder to generate response based on the previous utterance.
- The neural network was written in Python with Tensorflow using the starter code from Stanford CS 20SI's assignment, and the backend was written in node.js with Facebook Chat API.