Kevin Kuo

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EDUCATION

THE PENNSYLVANIA STATE UNIVERSITY | B.S in Computer Science — Expected May 2021
College of Engineering | University Park | State College, PA | GPA: 3.14 / 4.0

SKILLS

Python // C# // C // Java // JavaScript // ASP.NET Core // Node.js // OpenCV // Scikit-learn // Tensorflow

WORK EXPERIENCE

CARGILL | Software Engineering Intern — May 2019 – Aug 2019

- Developed a public API using .NET Core that optimized the customer's production costs based on relational data. (C#)
- Created dozens of features for the public API - including custom GraphQL like feature, and improved response time by 66% for nested data retrieval.
- Architected a multi-layered backend with dependency injection for mocking in Unit Tests using Moq and Xunit.

D.A.T.A LAB | Android App Developer — Oct 2018 – Jan 2019

- Worked on the development of an Android app that calculated the heart rate through time series facial imagery data. (Java)
- Received $ 100,000 in funding from 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.

LUNAR LION | Software Engineering Intern — May 2018 – Aug 2018

- Developed a multi-threaded communication system for the Peroxide Engine Test Stand to send telemetry & command data between Ground Control Station and Guidance, Navigation, & Control subsystem using ZeroMQ. (Python)
- Detected failure of the engine by implementing softkill which processed thermocouple, pressure transducer and load cell data readings using Python.

RESEARCH EXPERIENCE

INTELLIGENT VEHICLES & SYSTEMS GROUP | Undergraduate Researcher — Jun 2018 – Present

- Implemented linear discriminant 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 discriminant analysis (LDA).

EXTRACURRICULAR ACTIVITIES

DISNEY CONSULTING PROJECT | Project Lead — Dec 2017 – May 2019

- Managed 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.

UNMANNED AERIAL SYSTEM (UAS) | Computer Vision Sub team — Aug 2017 – Present

- 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 – Jan 2018

- 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.
- Developed the neural network 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.