Minjune Hwang

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EDUCATION

University of California, Berkeley | Class of 2021

B.A. Computer Science and Statistics **| GPA: 3.90 / 4.0 (CS GPA: 3.98)**

Relevant Coursework

CS 287- Advanced Robotics (A) | EE 16B- Info. Devices & System (A+)
CS 188- Intro. to Artificial Intelligence (A) | CS 189- Intro. to ML (A)
CS 61B- Data Structure (A+) | Math 54- Linear Algebra & Diff. Eq. (A+)
Math 53- Multivariable Calculus (A+) | EE 127- Convex Optimization (A-)
Stat 134- Concepts of Prob. (A) | Stat 135- Concepts in Statistics (A)

Skills

Languages: Python, Java, JavaScript, R
Web: HTML/CSS, React.js, bs4, request
ML: Tensorflow (Keras), Pytorch, Mxnet
AI / Robotics: OpenAI gym, Mujoco
Text / NLP: NLTK, Gensim

RESEARCH / WORK EXPERIENCE

Undergraduate Researcher, Mobile Sensing Lab (Bayen Lab) *February 2019 – Present*

- Implemented Mask R-CNN for semi-automatic labeling of vehicles, driving areas, and pedestrians in trajectory drone dataset collected from unconstrained traffic environment, trained the model by initially labeling a part of the dataset, and tuned hyperparameters for optimal object segmentation for creation of the dataset, with Berkeley Deep Drive.
- Generated statistical plots for measuring congestion and accessibility in transportation optimization framework. (joint project with Uber on mobility modeling)

Undergraduate Researcher, BAIR (El Ghaoui Lab) *August 2019 – Present*

- Collaborated with PEER (Pacific Earthquake Engineering Research) Center to generate automatic reports with extractive summarization method using topic-modeling-based (i.e. LDA, SPCA) approach, specifically working on reducing redundancy in such summaries by using unsupervised clustering methods like K-means or GDA with EM.

Research Apprentice, Lawrence Berkeley National Laboratory *October 2019 – January 2020*

- Experimented neuron simulation to optimize spearman value and stimulus sensitivity by finding optimal weights for neuron features with different normalization schemes and algorithms (e.g. gradient-based methods, pattern search).

Undergraduate Researcher, Wagner Lab *September 2019 – January 2020*

- Developed sparsity-invariant version of ResNet to detect adversarial patch attacks by occluding a part of images.

AI Research Intern, Sumup Analytics *April 2019 – August 2019*

- Developed sparse text classifiers and extractive text summarizer tool with various implementations including sparse Naïve Bayes, topic-modeling with cosine similarity, and centroid model and compared the performance on different text corpora and tasks, including detection of “bad” contents in twitter or sentiment analysis on review dataset.
- Programmed a topic-based novelty detection code for alerting new/novel articles on arXiv.

Software Intern, PwC Consulting *June 2018 – July 2018*

- Developed a program that parses clients’ international trade documents and categorizes them into trading terms (i.e. commercial invoice) with neural network models in RPA (robotic process automation) team.
- Programmed a web crawling software that requests JSON data from finance and customs websites, such as exchange rate, cargo tracking, or stock data, and visualize into given forms with Requests, BeautifulSoup and pandas.

TEACHING EXPERIENCE

Reader (EE 227B), EECS Department of UC Berkeley *August 2019 – December 2019*

STEAM Intern, Ecole Bilingue de Berkeley (under Prof. Alex Bayen) *February 2019 – May 2019*

- Taught Robotics (robot designing / programming) to elementary school students.

Academic Intern / Lab Assitant (CS 61A), EECS Department of UC Berkeley *January 2018 – May 2018*

PROJECTS

Kaggle Competitions

- Fashion-MNIST Classification: Image Classification with CNN models, such as AlexNet, ResNet, or VGG.
- Spam content detector with decision tree and random forest model.

Search Result Classifier with LDA

- Created a chrome extension that applies topic modeling on search results with Latent Dirichlet allocation model, classifies them into the desired number of categories and generates plots and links with top topics and search results.