Minjune Hwang

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Education

Carnegie Mellon University, School of Computer Science Aug '21 – May '23
M.S. in Robotics

University of California, Berkeley Aug '17 – May '21
B.A. in Computer Science, B.A. in Statistics GPA: 3.90/4.0 (CS GPA: 3.98)
Awards: Berkeley Summer Undergraduate Research Fellowships, The Berkeley Undergraduate Scholarship
Best Workshop Paper Award @ Conference of Applied Cryptography and Network Security 2020

Work Experience

Berkeley AI Research – ML Researcher Feb '19 – Present

- Worked with Prof. Alexandre Bayen on creating vehicle trajectory datasets for training autonomous vehicles.
  - Applied Faster R-CNN for detecting vehicles/pedestrians in traffic and Kalman filter for tracking.
  - Leveraged vehicle trajectories for training an agent in traffic environments with MPC and RL models.
- Worked with Prof. Laurent El Ghaoui on text summarization and classification with topic-models & RNNs.

Berkeley EECS Department – Undergraduate Researcher Aug – Dec '19

- Worked with Prof. David Wagner on identifying adversarial attacks on deep learning image classification.
  - Developed a sparsity-invariant version of ResNet to detect adversarial patch attacks by occlusion.

Sumup Analytics – AI Research Intern / Data Scientist Apr – Aug '19

- Developed sparse text classifiers and extractive summarizer with sparse Naïve Bayes and topic-modeling.
- Leveraged above models for sentiment analysis on corporate financial filings & abusive Tweets detection.
- Developed a topic-based novelty detector that alerts novel articles on arXiv, an archive of scholarly articles.

PwC Consulting – Software Engineering Intern June – July '18

- Created an ANN model that parses international trade documents and categorizes into customs/trading terms.

Academic Publications

Text Analytics for Resilience-Enabled Extreme Events Reconnaissance.
AI+HADR Workshop @ NeurIPS 2020. [arXiv / paper]

Motion Planning in Under-structured Road Environments with Stacked Reservation Grids.
Perception, Action, Learning (PAL) Workshop @ ICRA 2020. [paper]

Minority Reports Defense: Defending Against Adversarial Patches.
Security in Machine Learning and its Applications (SiMLA) 2020. [arXiv / paper]

Skills (Software, Data, ML)

Data / Stats: Visualization/Analysis (python, R), Time Series Analysis, Stochastic Process, Game Theory
Programming: Data Structure, Efficient Algorithm, OOP, Database System, Statistical Analysis
- Language: Python, SQL, Java, Javascript, HTML/CSS, R, C, Scheme
ML: Perception/Vision (segmentation, tracking, etc), Optimization, NLP, Unsupervised Learning
Robotics: RL (DQL, policy optimization, HMM), Optimal Control (LQR/LQG, MPC, Kalman filter
- Libraries: Tensorflow, PyTorch, PyData Stack (numpy, pandas, sklearn, seaborn, etc), cvxopt

Teaching Experience

EECS Department of UC Berkeley – Reader (EE 227BT: Convex Optimization) Aug '19 – Dec '19

EECS Department of UC Berkeley – Lab Assistant / Academic Intern (CS 61A) Jan '18 – May '18