Minjune Hwang

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Education

Sep '21 – Jun '23 | **Stanford University**
M.S. in Computer Science

Aug '17 – May '21 | **University of California, Berkeley**
B.A. in Computer Science, B.A. in Statistics GPA: 3.90 / 4.0 (CS GPA: 3.98)

Work Experience

May '21 - Aug '21 | **Apple Inc. (Autonomous System Group)** - *Trajectory Planning Intern*
- Developed efficient sampling algorithms for generating kinematically feasible trajectories.
- Implemented abstraction layer for serializing/deserializing data required for trajectory optimization.

Feb '19 - May '21 | **Berkeley AI Research** - *ML Researcher*
- Created vehicle trajectory datasets for training autonomous vehicles with Prof. Alexandre Bayen.
  - Applied Faster R-CNN for detecting vehicles/pedestrians in traffic and Kalman filter for tracking.
  - Leveraged trajectories for learning under-structured traffic with Model Predictive Control.
- Researched extractive text summarization with topic-models & RNNs with Prof. Laurent El Ghaoui.

Aug '19 - Dec '19 | **Berkeley EECS Department** - *Undergraduate Researcher*
- Worked with Prof. David Wagner on identifying adversarial attacks against image classifiers.
  - Developed a sparsity-invariant version of ResNet to detect adversarial patch attacks by occlusion.

Apr '19 - Aug '19 | **Sumup Analytics** - *AI Research Intern / Data Scientist*
- Developed sparse text classifiers and extractive summarizer with sparse Bayesian & topic-models.
- Programmed a novelty detector with sparse optimization for alerting novel articles on arXiv.

Honors

2021 | **High Distinction in General Scholarship, UC Berkeley**

2020 | **Best Workshop Paper Award @ Conference of Applied Cryptography and Network Security 2020**

2020 | **Berkeley Summer Undergraduate Research Fellowships**

Selected Publications

2020

1. McCoyd, M., Park, W., Chen, S., Shah, N., Roggenkemper, R., **Hwang, M.**, Liu, J. X. & Wagner, D. Minority Reports Defense: Defending Against Adversarial Patches. *Security in Machine Learning and its Applications (SiMLA)* (2020).
2. Tsai, A., Günay, S., **Hwang, M.**, Li, C., Zhai, P., El Ghaoui, L. & M.Mosalam, K. Text Analytics for Resilience-Enabled Extreme Events Reconnaissance. *AI+HADR Workshop @ NeurIPS* (2020).
3. Wu, F., Wang, D., **Hwang, M.**, Hao, C., Lu, J., Darrell, T. & Bayen, A. Motion Planning in Under-structured Road Environments with Stacked Reservation Grids. *Perception, Action, Learning (PAL) @ ICRA* (2020).

Teaching Experience

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

Jan '18 – May '18 | **EECS Department of UC Berkeley** - *Lab Assistant* (CS 61A: Structure and Interpretation of Programs)

Skills

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