Jake H. Lee

jake.h.lee@columbia.edu | github.com/jakehlee
jakehlee.com | (929) 399 4525

Education

Columbia University, School of Engineering and Applied Science, NY, NY
Master of Science in Computer Science — May 2020
Bachelor of Science in Computer Science — May 2019
Relevant Coursework: ML, AI, NLP, CV, Deep Learning, Algorithms, OS, Unsupervised ML, Computational Learning Theory, Security and Robustness in ML
B.S. GPA: 3.6/4.0
M.S. GPA: 4.0/4.0

Work Experience

Graduate Research Assistant, **Computer Science Dept., Columbia University,** NY, NY — Sept 2019 to present
- Self-motivated research under Prof. Junfeng Yang and Prof. Atlas Wang (Texas A&M).
- Evaluating the sensitivity and robustness of convolutional neural networks to the location of objects in the image frame during feature extraction and classification. Experiments performed on COCO2019 and ILSVRC2012 with Pytorch. Under preparation for submission.

Intern, **Machine Learning and Instrument Autonomy Group, NASA/Caltech JPL,** Pasadena, CA — June 2017 to Aug 2019
- Extracted deep features from 100k+ planetary images with pycaffe and used an unsupervised, interpretable novelty detection algorithm to prioritize interesting images for expert review.
- Second author publication at ICML 2018 Workshop on Human Interpretability in ML.
- First author submission to Data Mining and Knowledge Discovery journal under review.

Lab Assistant, **Columbia Plasma Laboratory, Columbia University,** NY, NY — Nov 2016 to May 2017
- Built electromagnetic instruments for a tokamak fusion reactor to measure plasma behavior.
- Documented and maintained a low-latency feedback controller in CUDA for the reactor.

Lab Assistant, **Ocean and Climate Physics Lab, Lamont-Doherty Earth Observatory,** NY, NY — Oct 2015 to Oct 2016
- Created and analyzed GIS visualizations of arctic solar radiation data for albedo measurement.
- Developed sensors for UAVs and prepared a polarimeter for fieldwork on the R/V Falkor.

Leadership

Columbia Social Entrepreneurship Group: Tech (CSEG Tech), Columbia University — Sept 2018 to present
Founder, Co-Director
- Leading 25 students for technology consulting for local non-profits. Several teams have developed tools and applications and performed data analysis for nonprofits advancing housing justice, debt consumer rights, and other social causes.

Columbia Makerspace, Columbia University — Jan 2016 to present
Student Volunteer
- Training other students, staff, and faculty on safe and effective equipment usage. Additionally, consulting on personal projects, coursework, and research experiments.

Columbia Space Initiative, Columbia University — Sept 2015 to May 2019
Senior Advisor, High Altitude Balloon Project Leader
- Led a group of 10 students to design and launch scientific payloads on high altitude balloons.

Relevant Skills

CS-related: Python (caffe, tensorflow/keras, pytorch, sklearn, numpy, matplotlib, pandas), C/C++/ArduinoC, MATLAB
Other: Bilingual (English, Korean), US citizen