

Education

Columbia University, School of Engineering and Applied Science, NY, NY Expected 2019

Bachelor of Science in Computer Science

Relevant Coursework: Machine Learning, Computer Vision, Deep Learning, Algorithms, OS, AI, NLP, Computational Learning Theory, Evolutionary Algorithms and Design

GPA: 3.6/4.0

Currently applying for Ph.D. programs and the NSF GRFP

Work Experience

Intern, **Machine Learning and Instrument Autonomy Group, NASA/CalTech JPL**, Pasadena, CA Summer 2017
to present

- Using convolutional neural network feature representations with the DEMUD novelty detection algorithm to prioritize unique and unexpected image content in large image sets
- Intimately involved throughout the entire project lifespan, from formulation to publication
- Journal paper with significant visualization improvements **in preparation**.
- **Paper:** Wagstaff, Kiri L., and Jake Lee. "Interpretable Discovery in Large Image Data Sets." *2018 ICML Workshop on Human Interpretability in Machine Learning*, 2018, pp.107-113.
- **Paper website:** <http://jakehlee.github.io/interp-img-disc.html>

Lab Assistant, **Plasma Physics Laboratory, Columbia University**, NY, NY Fall 2016
to Spring 2017

- Built instruments for a tokamak fusion reactor to measure plasma behavior
- Analyzed and documented CUDA low-latency feedback controller for plasma behavior for potential optimization, maintenance, and extension

Lab Assistant, **Oceanography Laboratory, Lamont-Doherty Earth Observatory**, NY, NY Fall 2015
to Fall 2016

- Analyzed and produced GIS visualizations of solar radiation data from a UAV over Svalbard
- Developed env sensors for UAVs and prepared a polarimeter for fieldwork on the R/V Falkor

Activities

Columbia Social Entrepreneurship Group Tech (CSEG Tech), Columbia University Fall 2018
to present
Founder, Project Lead

- Developing tools, tech infrastructure, and data analytics to support local nonprofits.

Columbia Space Initiative, Columbia University Fall 2015
to present
Senior Advisor, High Altitude Balloon Project Leader

- Led a group of ~10 students to design scientific payloads for HABs in near space for 3 years
- Founding board member - currently in a technical and administrative advisory role

Columbia Makerspace, Columbia University Spring 2016
to present
Superuser

- Maintaining existing equipment and training users for safety and proficiency
- Assisting in project design and manufacturing, e.g. CAD, 3D printing, Laser Cutting, Milling

Relevant Skills

CS-related: Python (numpy, caffe, tensorflow+keras), C/ArduinoC, MATLAB, HTML/CSS/JS

Projects: "ConvoGraph" - HackPrinceton - Finalist: top 10 of 90+

Given a recording of a conversation, our project attempts to visualize sentiments between speakers via speaker recognition, speech transcription, and text sentiment analysis.

<https://devpost.com/software/convograph>

Other: Bilingual (Korean, English), US citizen