

Education

- University of California San Diego, La Jolla, CA
PhD in Computer Science Expected 2022
- University of Rochester, Rochester, NY
B.S. in Computer Science May 2017

Employment

- Doctoral Researcher* October 2018 -
University of California San Diego, La Jolla, CA
• Machine learning & optimization algorithms, graph embedding, adversarial robustness
• Placement algorithms for [The OpenRoad Project](#) (2018-2019)
- Quantitative Research Intern, Systematic options alpha* June - September 2022
Citadel Securities, Chicago, IL
- Machine Learning Intern, GSOC-ML (Machine Learning Group)* June - September 2019
Qualcomm, San Diego, CA
• Developed framework for learning on hierarchical graphs with multiscale labels
- Machine Learning Intern, Intelligent Systems Group* June - September 2018
Johns Hopkins University, Applied Physics Laboratory, Laurel, MD
• Implemented deep learning-based segmentation, label aggregation, decorrelation algorithms
- Risk and Quantitative Technologies Intern* June - August 2016
JP Morgan Chase, New York, NY

Research Projects

- Block Placement and Graph Embedding Optimization*
- Developed efficient spectral graph cut/embedding algorithms [ISPD'23¹](#) (best paper nom.)
 - Proposed convex regularizer to provably reduce edge-crossings [ASPDAC'22¹](#) (best paper award)
 - Graph embedding for bin packing & neural network similarity testing [ICML TAG'22](#)
- Efficient Methods for Enhancing Robustness of Neural Networks*
- Leveraged online self-supervision and bilevel optimization to improve robustness [ICLR'21](#)
 - Developed novel *geometric certificate of robustness* and proof of correctness [preprint](#)

Open Source Projects

- banditpylib* <https://github.com/Alanthink/banditpylib>
Lightweight Python library for bandit algorithms
• Implemented decentralized & private environments, linear & correlated bandit algorithms
- tslearn* <https://github.com/rtavenar/tslearn>
Python machine learning toolkit for time-series [JMLR'21](#)
• Introduced support for Gaussian process regression and improved data infrastructure

Teaching Experience

- AI: Statistical Approaches, Convex Optimization Theory and Algorithms
- Recommender Systems, Computational Stats, Algorithms, Digital Logic

Skills & Other

- *Languages:* Python, Matlab, Java, R, SQL, Javascript, C/C++, Julia
- *Frameworks:* Jax (numpy,scipy,cvxpy,matplotlib), PyTorch, TensorFlow, Keras, SLURM
- 2022 ACM/IEEE ASPDAC Best Paper Award
- 2023 IEEE ISPD Best Paper Award Candidate (award to be decided in 2023)
- 1st place in data science at DandyHacks, University of Rochester, 2016

¹corresponding author, authors listed alphabetically following convention