

Education

PhD in Applied Mathematics: Expected Graduation Dec. 2021 Cornell University

Research focus: Computer vision, self-supervised & transfer learning, atypical image domains
Projects:

- Current: Self-Supervised Ensembling, Satellite Imagery Time Series
- Expert Transfer Learning Model Selection (See **Publications**, CVPR 2021)
- Varied Domain Self-Supervised Learning (See **Publications**, ECCV 2020)
- Single-Image 3D Reconstruction (See **Publications**, ICCV 2019)

B.S. in Mathematical Sciences (2015) University of California, Santa Barbara (2013-2015) Attended College of San Mateo (2010-2013)

- Grade Point Average: 4.0 (both colleges)
- Highest Honors awarded upon graduation
- Dean's Honors List for every undergraduate college term attended

Publications

- **Wallace***, **Wu*** & **Hariharan**: *Can We Characterize Tasks Without Labels or Features?* *CVPR 2021*
- **Wallace** & **Hariharan**: *Extending and Analyzing Self-Supervised Learning Across Domains*. *ECCV 2020*
- **Wallace** & **Hariharan**: *Few-Shot Generalization for Single-Image 3D Reconstruction via Priors*. *ICCV 2019*
- **Wallace** & **Atzberger**: *Role of Diffusion of Fluorophore Orientation and Separation in Observed Shifts of FRET Efficiency*. *PLOS One: Vol. 12 Issue 5*

Reviewer: AAAI 2020, NeurIPS 2020, CVPR 2021

Work Experience

Research Intern (Salesforce Research)

May 2021 – August 2021

Designed methods for self-supervised ensembling of pretrained convolutional neural networks with applications to transfer learning. Work to be submitted for academic review in Fall 2021.

Financial Engineering Intern (Bloomberg LP)

May 2018 – August 2018

Developed unsupervised anomaly detection models for foreign currency exchange volatilities. This work was incorporated in Bloomberg production code.

Data Science Intern (Vium)

April 2016 – March 2017

Machine learning and software engineering with an emphasis on computer vision. Involved in conceptualization and development of biometrics for *in vivo* studies.

Sports Analytics Writer (The Stats Zone)

April 2016 – August 2016

Wrote sports analytics articles for online publication.

Junior Specialist (UC Santa Barbara)

June 2015 – September 2015

Designed Monte Carlo simulations of FRET experiments. See **Publications**, PLOS One.

Teaching

Teaching Assistant (Cornell)

August 2017 – May 2019

Multivariable Calculus for Engineers (Fall 2017)

Introduction to Data Science (Spring 2018, Spring 2019 Head TA)

Basic Engineering Probability and Statistics (Fall 2018)

Distinguished Active Learning Teaching Assistant Fellow

August 2018 – May 2019

Competitively awarded fellowship. Designed teaching workshops for other graduate TAs.

Software Skills

Python (7 years)

- Preferred research library: Pytorch