
EDUCATION	University of California, Santa Cruz 2014 — 2019 PhD; Astrophysics with an Emphasis in Statistics (<i>GPA</i> : 4.0/4.0) <i>Selected coursework</i> : Advanced Machine Learning (Winter 2018), Bayesian Statistical Modeling (Spring 2016), High Performance Computing (Spring 2015) Massachusetts Institute of Technology 2010 — 2014 BS; Physics (<i>GPA</i> : 4.9/5.0)
WORK EXPERIENCE	<hr/> Microsoft 2019 — Data Scientist UCSC Astronomy & Astrophysics 2014 — 2019 NSF Graduate Research Fellow - Adapted 1×1 convolutions to transfer learning from networks pre-trained on 3 channel (RGB) images to 5+ channel images common in astronomy2019 - Developed conditional Generative Adversarial Networks (cGANs) to create new galaxy images to augment training of neural nets (Python, tensorflow)2018 - Built image classifier using Convolutional Neural Networks and Random Forests to identify dwarf galaxies (Python, keras, scikit-learn)2017 - Published Bayesian statistical analysis of hundreds of supernova simulations2016 - Extended distributed software for 3D supernova simulations (C, C++) that scales well to at least 1000 CPUs and has run for over 250,000 CPU hours.2015 - Published detailed analysis of a few simulations ran by this code.2018 Microsoft Summer 2018 Data Science Intern - Built deep learning clustering models to identify structure in the differences between natural language corpora (Python, tensorflow) - Designed online, unsupervised anomaly detection models (Python) LendUp (consumer lending startup)Summer 2017 Data Science Intern - Predicted risk of credit card applicants using statistical modeling (Python, SQL) - Engineered new features to extract insights from previously unused data - Performed exploratory data analysis to support new product development MIT Kavli Institute for Astrophysics 2013 — 2014 Undergraduate Researcher - Discovered and published faint signals of a galactic jet in noisy imaging data (Python)
TOOLS	<hr/> Python, tensorflow, keras, pytorch, scikit-learn, C++/C, SQL, R <hr/>
SELECTED AWARDS	NSF Graduate Research Fellow 2016 — 2019 - \$138,000 award supporting my PhD research; 2,000 fellows selected from 17,000 applicants Osterbrock Prize Leadership Fellow (UC Santa Cruz)2015 — 2018 - \$5,000 award with continued mentoring to develop technical leadership skills