Elias F. Rubin

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Education

Princeton University   *Princeton, NJ*
A.B. ASTROPHYSICS
                                                                                 Expected grad. May 2018
CERTIFICATE IN APPLICATIONS OF COMPUTING

- Coursework includes Algorithms and Data Structures, Programming Systems, Machine Learning, Probability and Stochastic Systems, Computational Physics, General Relativity, and Quantum Mechanics.
- Spring 2016 Junior Paper: Using Deep Autoencoders to Learn from Undersampled Data.
- Fall 2015 Junior Paper: Numerical Simulations of a Self-Gravitating Isothermal Planar Atmosphere.

Experience

Google Inc.   *Cambridge, MA*
INCOMING SOFTWARE ENGINEERING INTERN   *Fall 2016*

Atacama Large Millimeter Array Observatory   *Santiago, Chile*
SUMMER RESEARCH ASSOCIATE   *Summer 2016*

- Building a tool in Python to automatically combine images from ALMA's 12 meter and 7 meter arrays.
- Worked with research staff on the interferometry data pipeline as well as core astronomical operations.
- Research applications to star formation in obscured galactic disks.

Princeton University Department of Astrophysics   *Princeton, NJ*
SUMMER RESEARCH ASSOCIATE   *Summer 2015*

- Worked with faculty and research staff to model radiation feedback effects in galactic disks using massively parallel radiation hydro-dynamics simulations on a variety of architectures.
- Added additional physics to and wrote new simulation code for the *Athena* MHD modeling software in C.
- Managed and analyzed large amounts of simulation data using Python and Bash.
- Presented results to department faculty and research staff as well as members of the public.

Activities and Service

Princeton University Outdoor Action Program   *Princeton, NJ*
LEADER & LEADER TRAINER   *2014 - Present*

- Led a multiday wilderness backpacking orientation trip for first-year students.
- Led multiday wilderness backpacking trips to train current orientation leaders to teach technical wilderness skills to prospective leaders.
- Taught underclassmen interested in becoming Outdoor Action leaders technical wilderness skills and Leave No Trace principles.
- Contributed to development of Technical Skills and Leave No Trace curriculum.

Princeton University Department of Computer Science   *Princeton, NJ*
GRADER   *2016 - Present*

- Grade assignments and provide feedback for students in introductory computer science courses.
- Selected to be a grader after finishing at the top of my introductory computer science class.

Skills

Programming   Python, Java, C, Bash, Assembly, LaTeX, Git
Languages   English, Swahili