Elijah Z. Bernstein-Cooper

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EDUCATION		
	Masters in Astrophysics, 3.5 GPA	Dec. 2015
	University of Wisconsin – Madison	
	B.A. Physics with an Astronomy Emphasis, 3.5 GPA	May 2013
	Macalester College	

TECHNICAL SKILLS

Languages:
- \> 10,000 lines: Python
- \> 1,000 lines: Matlab
- Working knowledge: R, Java, HTML, CSS

Software: Git (https://github.com/ezbc), Markdown, Jekyll, Sphinx, UNIX, Debian/Ubuntu, OSX, Travis-CI, Latex

Techniques: machine learning, data visualization, predictive modeling, multi-processing, uncertainty analysis, frontend web development, unit + integrated testing

PROFESSIONAL EXPERIENCE

Research Assistant, UW – Madison　　　　Aug. 2013 — present
- Identified complex gas structure around stars by employing non-linear optimization in multi-dimensional parameter space.
- Published Python module to regrid non-standard data with nearly 100 million observations into accessible format for astrophysicists.
- Presented original research at international conference and to colleagues. Delivered two talks to department investors.
- Led team of international researchers to publish first-author paper. Collaborated with colleagues to coauthor two papers.

PROJECTS

Data Visualization in Healthcare　　　　Jan. 2016 — present
- Developing online tool for patients to compare more than 16,000 US hospital readmission rates under own direction.
- Interfacing PostgreSQL database with Phoneix Framework/Elixir web application.

Air B&B User Destination Prediction　　　　Jan. 2015
- Predicted more than 60,000 Air-B&B-user destinations in Kaggle competition.
- Applied and cross-validated neural-network regression on categorical and numerical data with Pandas library to achieve 70% accuracy.

Contributed to Open-Source Astro Library　　　　Dec. 2015
- Bolstered uncertainty analysis capabilities of statistical Python package "astropy": https://github.com/astropy/astropy.