

Adrian Price-Whelan, Ph.D.

astrophysicist / data scientist / musician

 adrn ·  apw ·  adrianprw

Astrophysicist by profession, data scientist by passion.
I bring advanced data analysis tools and techniques to astrophysics.

EDUCATION

PH.D., ASTROPHYSICS

COLUMBIA UNIVERSITY
May 2016 | New York, NY

M.PHIL., M.A., ASTROPHYSICS

COLUMBIA UNIVERSITY

Relevant courses:

Statistical Machine Learning

Statistics, Data Mining, and Machine Learning in Astronomy

May 2013 | New York, NY

HONORS B.A., PHYSICS

NEW YORK UNIVERSITY
May 2010 | New York, NY

TECHNICAL SKILLS

EXPERT

Bayesian statistics & inference

Data wrangling & visualization

Machine learning (classification, regression)

Python (pandas, Jupyter, scikit-learn)

Version control (Git & GitHub, SVN)

Collaborative software development

Continuous integration

Unix

COMFORTABLE

C, C++

SQL & databases

MPI, multiprocessing, & parallelization

JavaScript (jQuery, D3)

HTML, CSS

SOFTWARE DEV

LEAD DEVELOPER

astropy, gala, thejoker, schwimmbad

CONTRIBUTOR

matplotlib, numpy

EXPERIENCE

FLATIRON INSTITUTE | ASSOCIATE RESEARCH SCIENTIST

July 2019 – present | New York, NY

Leads collaborative research projects that use modern data analysis methods to make inferences from surveys of billions of stars.

Supervises (>10) graduate student and postdoctoral research projects.

Typical projects utilize parallel processing (MPI), efficient statistical algorithms, and fast data storage and retrieval.

Authored 86 research papers (18 as lead author) in scientific journals.

Recent project: Formulated and implemented (Python/C) a new Bayesian Monte Carlo sampler for hierarchical inference of binary star properties with a large database of astronomical spectroscopy (>650,000 stars).

Presents research at invited talks and communicates astrophysics to public audiences through public outreach, e.g., Astronomy on Tap.

PRINCETON UNIVERSITY | POSTDOCTORAL RESEARCH FELLOW

July 2016 – July 2019 | Princeton, NJ

Supervised undergraduate & graduate students and strives to foster a communicative and supportive community.

Advised a graduate student (now research scientist at Cambridge University) to define a new Bayesian model selection method that led to the discovery of many new star clusters using a custom analysis pipeline.

Taught applied data science and statistics courses, co-organized a weekly data science seminar series.

TENFORE HOLDINGS | CONSULTANT (DATA SCIENCE)

November 2014 – December 2015 | New York, NY

Produced advertising recommendations for 'Viagogo' based on inferred user models from user transaction data

Produced cohort summary statistics and analysis tools for 'GameChanger' subscription data

Advised on math associated with key products for 'AGERpoint'

INSTRUCTOR | DATA SCIENCE AND COMPUTING

July 2011 – present | New York, NY

Scicoder: summer, week-long workshops

American Astronomical Society: full-day workshops

PyData NYC: half-day workshop

Columbia University: data science seminar series

Princeton University: data science methods (graduate student course)