Andrew Riddle

Austin, TX

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Website: https://ajriddle.github.io/index.html | GitHub: https://github.com/ajriddle

EDUCATION

The University of Texas at Austin, Austin, TX   August 2011 - May2016
5 years of graduate training

The University of Illinois at Urbana-Champaign, Urbana, IL   December 2010
Bachelor of Science in Astronomy

EXPERIENCE (in reverse chronological order)

Research

The University of Texas at Austin, Austin, TX   August 2011 – May 2016
Graduate Research Assistant
- Developed a Python routine to perform a Markov Chain Monte Carlo (MCMC) analysis on observational data of 9-parameter eclipsing binary star systems to find the best-fit orbital parameters and presented the results at a meeting of the American Astronomical Society (AAS) as well as a seminar at UT.
- Developed a Python implementation of the TODCOR algorithm, a two-dimensional cross-correlation algorithm used to measure the radial velocity of stars in a binary system, and presented the results of using the algorithm on several star systems at AAS and Cool Stars conferences as well as a seminar at UT.
- Developed a Python/bash algorithm to perform real-time imaging analysis of data taken from the 0.8-m telescope at McDonald Observatory to find and measure stellar eclipses and presented the results in a seminar at UT.
- Integrated a variety of imaging data from many different sources into one comprehensive database to allow for easier computational analysis.
- Collected imaging data using the 0.8-m, 2.1-m Otto Struve, and 2.7-m Harlan J. Smith telescopes at McDonald Observatory as well as the LCOGT network of telescopes for use in my research.
- Wrote 3 successful proposals for telescope time on the LCOGT network of telescopes and the 2.7-m Harlan J. Smith telescope at McDonald Observatory.

University of Illinois at Urbana-Champaign, Urbana, IL   September 2009 - May 2011
Undergraduate Research Assistant
- Used bash/IRAF scripts to compare the images of stars across multiple photometric bands observed over several decades to match stars with their counterparts in the other images.
- Developed Python code to query a stellar database based on user input and return requested information.

Teaching

The University of Texas at Austin, Austin, TX   August 2011 – May 2016
Teaching Assistant
- 7 semesters as a teaching assistant for lower and upper level undergraduate astronomy classes.
- Planned and led a discussion section.
- Reviewed and graded homework and test questions.
- Wrote and taught the content for a lecture to an undergraduate astronomy class.

- Held office hours to help students with course content.

University of Illinois at Urbana-Champaign, Urbana, IL   January 2011 - May 2011
Teaching Assistant
- Graded assignments.
- Held office hours to help students with course content.

PROJECTS

- Wrote C++ program to run the inventory of a record store as a class project.
- Wrote Python code to interface new components of the gaming software *Magic Workstation* with the existing program.

SKILLS

Programming: Python (advanced), C++ (intermediate), shell/bash, awk)
Databases and Web Design/Development: Java (beginner), HTML/CSS (beginner), Ruby (beginner), MySQL (beginner), Git
Data Analysis: Bayesian inference (MCMC), image processing, cross-correlations (1D and 2D)
Presentation Software: Excel, Powerpoint, Word, LaTeX
Operating Systems: Mac OS X, Linux, Windows
Oral Presentations: Gave 6 research presentations to members of the UT astronomy department.
Writing: Wrote 3 successful proposals to receive observing time on the 2.7-m HJS Telescope at McDonald Observatory and the LCOGT network of telescopes.

HONORS AND AWARDS

- Chambliss Astronomical Achievement Award for my poster presentation at the 227th meeting of the AAS in Kissimmee, FL in 2016.
- James Scholar at University of Illinois at Urbana-Champaign
- Dean's List: Fall 2007, Spring 2008, Spring 2009, Spring 2010
- Cum Laude with High Distinction in Astronomy, University of Illinois at Urbana-Champaign