

# CASSIDY MAGNOLIA WAGNER

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<https://github.com/cassidymwagner>

## EDUCATION

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### **The University of Illinois at Urbana-Champaign**

June 2018 — Present

Department of Astronomy

Ph. D. in Astronomy, concentration in CSE

Expected May 2023

### **The University of Oklahoma**

August 2015 — May 2018

Homer L. Dodge Department of Physics and Astronomy

B.S. in Astrophysics, May 2018

## RESEARCH EXPERIENCE

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### **The University of Illinois at Urbana-Champaign**

June 2018 — Present

*Research Assistant*

- Implementing driven subgrid-scale turbulence modeling in GAMER
- Hydrodynamical visualizations in yt

### **The University of Oklahoma**

January 2016 — May 2018

*Undergraduate Research Assistant*

- Used MCMC to constrain and fit quasar spectral energy distributions
- Used linear regression techniques to characterize correlations in quasars
- On-site and remote observations at the MDM Observatory and APO
- Reduced, cleaned, reconstructed, and fit broad absorption line quasar spectra

### **The University of Texas Rio Grande Valley**

June 2017 — August 2017

*Research Experience for Undergraduates*

- Created methods to simulate pulsar signal components and incorporate into pulsar signal simulator
- Contributed to incorporation of gravitational waves in pulsar timing software PINT
- Made progress in generating PSRFITS files from simulated pythonic data

### **The University of Oklahoma**

May 2016 — August 2016

*Research Experience for Undergraduates*

- Fit composite quasar spectra to generate models for spectral principal component analysis
- Reconstructed broad absorption line quasar spectra from eigenspectra generated from SPCA

## TECHNICAL SKILLS

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### **Computer Languages**

Python, Shell, C++, CSS

### **Software and Tools**

Jupyter, Sherpa, GAMER, Mathematica, MESA, Git, Vim, L<sup>A</sup>T<sub>E</sub>X

### **Operating Systems**

Unix, Windows