Lindsey Gordon

76 Park Avenue, Wethersfield CT 06109
lgordon6@wellesley.edu • (860) 436-1827 • lcgordon.github.io

EDUCATION

Wellesley College, Wellesley, Massachusetts, USA

- B.A. in Astrophysics, minor in Computer Science — Sep 2017 –
  - Thesis: Detection and Modeling of TESS-Observed Supernovae
  - Thesis Advisors: Dr. Richard French and Dr. Tansu Daylan (MIT)
  - Cumulative GPA: 3.68

RESEARCH EXPERIENCE

***Mergen*: An Unsupervised Pipeline for TESS Light Curve Classification** — Feb 2020 –

- Kavli Institute, Massachusetts Institute of Technology
- Supervisors: Dr. Tansu Daylan and Dr. George Ricker
- Producing a Python pipeline that uses a convolutional autoencoder to abstract TESS light curves into representational feature spaces to perform unsupervised machine learning on with the goal of anomaly detection and mass classification.

TESS Follow-Up Observing Program — Feb 2020 –

- Astronomy Department, Wellesley College
- Supervisor: Dr. Kim McLeod
- Taking and reducing data from a 0.7m PlaneWave telescope to confirm TESS exoplanet candidates. Making observations for term projects for the astronomy research methods course.

Fiber Optic Fed Spectrometer — Spring 2019, Spring 2020

- Astronomy Department, Wellesley College
- Supervisor: Dr. Kim McLeod
- Designing and building the internal optics and guide system for a fiber optic fed optical spectrometer for the observatory's new telescope.

A Compact Multi-Beam Linear Accelerator — Aug 2019 – Dec 2019

- SULI Intern, Lawrence Berkeley National Laboratory
- Supervisor: Dr. Arun Persaud
- Worked on a prototype compact ion accelerator. Electrical engineering work in parts testing for new components for an energy upgrade. Computational physics work on Python simulations of the internal fields and ion motion.

Searching for Dual Quasars in Archival Hubble Data — Jun 2019 – Aug 2019

- KNAC REU, Middlebury College
- Supervisor: Dr. Eilat Glikman
- Wrote a search algorithm to find candidate double quasar systems in the Hubble archive using contour maps. Analyzed resulting density of identified candidates.

LANGUAGES & SKILLS

- Python - 3+ years
  - General Packages: NumPy, pandas, matplotlib, PyMySQL, emcee
  - Machine learning: Scikit-learn, TensorFlow, Keras
  - Astronomy specific: Astropy, Astroquery, SciPy
- HTML/CSS & Javascipt - 3+ years
  - Flask, Ajax
- Java, MATLAB, SQL - 1+ years
- Fabrication: 3D modeling (SolidWorks) and printing, basic electronics, soldering, laser cutting, machine shop tool use, optical design
- Astronomy: Telescope driving, AIJ, SAOds9, TOPCAT
- Microsoft Office, LaTeX

PUBLICATIONS

[1] J. Rodriguez ***et al.*** "TESS Delivers Five New Hot Giant Planets Orbiting Bright Stars from the Full Frame Images" Submitted to ApJ December 2020.

[2] T. Daylan, E. Chickles, **L. Gordon**, *et al.* "*Mergen:* Classification and Novelty Detection with the TESS Data" In prep for January 2021.

[3] **L. Gordon**, T. Daylan, E. Chickles, *et al.* "TESS Census of Supernovae and AGN" In prep for spring 2021.

[4] E. Chickles, T. Daylan, **L. Gordon**, *et al.* "Novel Stellar Variability in the TESS Data" In prep for spring 2021.

WORK EXPERIENCE

Night Assistant - Astronomy Department, Wellesley College Dec 2018 –

- Night lab TA for *ASTR 100: Life in the Universe* and *ASTR 107: Introduction to Astronomy w/ Lab,* 90 students/semester.

Book Conservation Assistant Sep 2017 – Mar 2020

- Library and Technology Services, Wellesley College
- Work-study job repairing circulating library collections. Unable to transition to remote during COVID.

SMALLER PROJECTS

AstroHackWeek 2020 8/31-9/4 2020

- Hackweek for astronomy data science. Led project to convert existing code into a GitHub package hubble_contours, which produces contour plots from drizzled Hubble files at a given list of input coordinates.

AstroTech Summer School, UC Berkeley Cancelled Due to COVID-19

- Summer workshop on astronomy instrumentation.

MIT Astronomy Field Camp, Lowell Observatory January 2019

- Project: Python Analysis of K2 Stellar Flares
- Advisor: Dr. Joe Llama
- Month long research project analyzing usefulness of various Python packages for flare detection in K2 data.

POSTERS & PRESENTATIONS

AAS 237 Jan. 2020

- Poster on *Classification of Supernovae in TESS Data* (1/15). Short talk during the *Mining TESS Data with Machine Learning and Other Advanced Methods* Special Session (1/14).

KNAC 2020 Symposium - Talk Oct. 3 2020

- Ten minute talk on *Mergen* and submitted a short paper to the symposium proceedings.

TESS Science Talk Sept. 9 2020

- Hour talk on *Mergen* at the weekly TESS Science Talk.

Summer MKI Undergraduate Research Forum - Talk Aug. 24 2020

- Ten minute talk on *Mergen* at the final project presentations for MIT's summer research program.

LBNL Fall Presentations - Poster Dec. 6 2019

- Presented poster on *A Compact Multi-Beam Linear Accelerator* at a session held at LBNL.

KNAC 2019 Symposium - Talk Oct. 5 2019

- Ten minute talk on *Searching for Dual Quasars in Archival Hubble Data* and submitted a paper to the symposium proceedings.

Middlebury College Summer Research Poster Session - Poster July 25 2019

- Presented poster on *Searching for Dual Quasars in Archival Hubble Data* at the poster session for summer science research at Middlebury.

AWARDS & FELLOWSHIPS

NASA Massachusetts Space Grant Spring 2020, Fall 2020, Spring 2021

- Funding for TESS follow-up observing program research at Wellesley.

2020 Albright Institute for Global Affairs Fellow 2020

- Interdisciplinary fellowship on global affairs. Programming and funding for an internship abroad, postponed due to COVID-19.

CAMPUS ACTIVITIES

A.S.T.R.O. Club Sep 2017 –

- President - Founded a Journal Club, transitioned club to online during COVID. 2020 – 2021
- Treasurer - Managed finances, cohosted a lecture on Shakespeare and Astronomy. 2018 – 2019

Society of Physics Students Sep 2017 –

Wellesley College Shakespeare Society Feb 2018 –