Hannah M. Lewis

Graduate Researcher

CONTACT INFO

hlewis@virginia.edu

(443) 617-1369

linkedin.com/in/hmlewis-astro/

github.com/hmlewis-astro

ORCiD: 0000-0002-7871-085X

SKILLS

Programming Languages:
Python including pandas and scikit-learn, Jupyter notebooks, SQL, R, shell scripting

Data Analysis:
Data science, data wrangling, data visualization including Tableau, web scraping, version control/git/GitHub, machine learning, deep learning (basic)

Mathematics:
Inferential and descriptive statistics, Bayesian statistics, linear algebra, calculus

Communication:
Scientific and technical writing and communication (for technical and non-technical audiences)

Self-motivated learner and goal-oriented researcher, with a strong proficiency in Python, five years of experience in independent, graduate-level science research, and a genuine interest in collaborating to solve challenging data-driven problems. Seeking a position that will allow me to expand my existing data science and machine learning skillsets beyond my current area of expertise.

EXPERIENCE

StatLab Fellow
University of Virginia Library, Research Data Services
2020 – Present

- Led consultations with University researchers to find the best statistical and data analysis methods to address their unique research questions
- Developed user-friendly Jupyter notebooks for research projects involving e.g., exploratory data analysis and visualization, data wrangling, and web scraping
- Explored correlation between heat and poverty in Charlottesville, VA by combining geospatial data with US Census data
- Published data analysis tutorials on topics in coding and statistics

Graduate Researcher
University of Virginia, Department of Astronomy
2016 – Present

- Managed an array of research projects and authored multiple first-author works on the properties of binary stars
- Worked in a highly collaborative research group, and partnered with a wide range of researchers to produce scientific results from large datasets (>2 million observations of stars)
- Developed and provided support for well-documented, Python-based programs to quickly advance graduate-level research projects
- Collaborated with peers to develop data documentation and public user guides for large survey datasets
- Publications, press articles, and writing samples available by request

TRAINING

Introduction to Machine Learning
Self-guided via Udacity
2020

- Created and visualized a probabilistic model (using logit regression) which predicts patient survival probability following cancer surgery, using the Haberman Cancer Survival Dataset (github.com/hmlewis-astro/haberman_ml)

EDUCATION

Ph.D. in Astronomy — University of Virginia
Anticipated June 2021 — NASA Virginia Space Grant Consortium Fellowship

M.S. in Astronomy — University of Virginia
2016 – 2018 — Jefferson Fellowship

B.A. in Physics — St. Mary's College of Maryland
2012 – 2016 — Summa cum laude