

GABRIELA TORRINI

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EDUCATION

MS in Astronomy

University of Illinois Urbana-Champaign

August 2022

BS in Astronomy & Astrophysics

The Ohio State University

May 2020

- Minor: Spanish
- *Magna cum laude* with Research Distinction

EXPERIENCE

Software Development Intern

December 2022 - July 2023

Turnell Corp, St. Charles, MO

- Developed a full-stack, web-based pilot application to simulate & optimize cement production processes
- Created web forms for equipment flowsheets & optimization problems using React.js & Material UI
- Built a Flask API to handle requests, perform mass-energy balance calculations, & manage database interactions

Graduate Student Developer

January 2022 - May 2022

National Center for Supercomputing Applications, Urbana, IL

- Helped develop cutout request form to access SPT-3G microwave maps using React.js & Material UI
- Implemented a monitor via Uptime Kuma to maintain access to data services

Graduate Fellow

January 2021 - August 2022

Department of Astronomy, University of Illinois Urbana-Champaign, Urbana, IL

- Analyzed 31,000 celestial sources observed by DES in the COSMOS sky field; selected optically variable dwarf active galactic nuclei using astroPy, pandas, sciPy, & numpy; identified 51 dwarf active galactic nuclei candidates
- Analyzed 6 seasons of DECam imaging data; measured the offset distribution of dwarf active galactic nuclei candidates using astroPy, numPy, & pandas; found no statistically significant offset fraction

Undergraduate Research Assistant

May 2019 - May 2020

Department of Physics & Astronomy, The University of Utah, Salt Lake City, UT /

Department of Astronomy, The Ohio State University, Columbus, OH

- Optimized cosmic-ray background subtraction algorithm using pandas, numPy, & sciPy
- Analyzed 97 hours of VERITAS data to test optimization factors such as gamma-ray shower shape, elevation, azimuth, and season; determined observing season to be the most critical factor
- Completed a senior thesis

PROJECTS

Astro Escape

October 2023 - November 2023

- Built an astronomy-themed online escape room using React.js & Material UI

Major League Soccer Stats Analysis

September 2023

- Wrote a Python module to analyze 2023 regular season statistics
- Requested data from the MLS Stats API; cleaned & selected data using pandas; produced visualizations with Matplotlib & Seaborn

SKILLS

Programming Languages: Python, JavaScript, HTML, CSS, C++

Libraries & Frameworks: pandas, numPy, astroPy, sciPy, Matplotlib, Seaborn, Flask, React.js, Material UI

Software Systems: Git, Mathematica, LaTeX

Operating Systems: Windows, Linux