
EDUCATION

B.S. in Physics & Applied Data Science

Siena College

GPA: 4.0, Completed Minors: Astrophysics & Mathematics

Relevant Coursework: Introduction to Computational Physics, Introduction to Statistics with Computation, Data Structures, Database Management Systems, Introduction to Artificial Intelligence

Honors & Awards: Siena College Excellence in Physics Award (May 2023), Siena College Excellence in Applied Data Science Award (May 2023), Siena College Physics Department Sophomore Excellency Award (May 2021), Sigma Pi Sigma Honor Society Member (May 2021 - Present)

May 2023

Loudonville, NY

SKILLS

Programming

Python, Java, Bash, Git, LaTeX, MATLAB, SQL, Basic Fortran

Related Programming Packages

NumPy, Pandas, Matplotlib, Keras, Tensorflow, Seaborn, Astropy

Other

GitHub, Overleaf, Jupyter, Oracle, Statistical Analysis

PROJECTS & WORK EXPERIENCE

University of Hawaii at Manoa, Institute for Astronomy

Research Intern - Tip of the Red Giant Branch Bounds on the NMDM Revisited

Jun 2022 - Aug 2022

- Modified an open source stellar evolution simulation using Fortran.
- Optimized a simulation by using python to train a deep neural network and use it as a simulation emulator.
- Conducted a Bayesian statistical analysis, Markov Chain Monte Carlo, to constrain a particle physics property.
- Code is available on GitHub and results will be presented in Franz et al. (2023), in progress (see second page).

University of California, Berkeley Search for Extraterrestrial Intelligence (SETI)

Research Intern - Technosignature Search of Transiting TESS Targets of Interest

Jun 2021 - May 2022

- Searched through and analyzed over 30 terabytes of Green Bank Telescope radio data for evidence of extraterrestrial intelligence using Python and Bash.
- Optimized the existing search software by developing a parallel processing algorithm using multiple compute nodes on a cluster.
- Created visualizations of multi-dimensional radio signals using matplotlib.
- Code is available on GitHub and results are published in Franz et al. (2022), *Astronomical Journal* (see second page).

Siena College

Teaching Assistant & Peer Tutor

Aug 2020 - May 2023

- Facilitated a lab or office hours to help students learn physics, programming, and data science concepts.

Astrophysics Research Intern

Jan 2021 - Feb 2022

- Developed a Python program to simulate and analyze spectroscopic lenses to place limits on Dark Energy Spectroscopic Instrument observation parameters.
- Code is available on GitHub and results were presented at the 237th meeting of the American Astronomical Society.

Electronics Research Intern

Dec 2021 - Feb 2022

- Designed a circuit for an automatic hand sanitizer dispenser with MATLAB, Simulink, and Eagle CAD.

LEADERSHIP EXPERIENCE

President of Siena College Ultimate Frisbee Team

Sep 2020 - Present

Resident Assistant

Aug 2020 - May 2021

GROC Mountain Bike Patrol (National Ski Patrol)

Oct 2018 - Dec 2022

PUBLICATIONS & PRESENTATIONS

Publications

Noah Franz, Mitchell Dennis, and Jeremy Sakstein. Tip of the red giant branch bounds on the neutrino magnetic dipole moment revisited. Manuscript in Progress.

Noah Franz, Steve Croft, Andrew P. V. Siemion, et al. The breakthrough listen search for intelligent life: Technosignature search of transiting tess targets of interest. *The Astronomical Journal*, 163(3):104, feb 2022.

Presentations

Noah Franz, Mitchell Dennis, and Jeremy Sakstein. Tip of the red giant branch constraints on the neutrino magnetic dipole moment revisited. *241st American Astronomical Society*, 2023.

Noah Franz, Steve Croft, Andrew P. V. Siemion, et al. The breakthrough listen search for intelligent life: Technosignature search of transiting tess targets of interest. *73rd International Astronautical Congress*, 2022.

Noah Franz, Steve Croft, Andrew P. V. Siemion, et al. The breakthrough listen search for intelligent life: Technosignature search of transiting tess targets of interest. *239th American Astronomical Society*, 2022. Conference cancelled due to the COVID-19 pandemic.

Noah Franz, Brian Bauer, and John Moustakas. Identifying Strong Gravitational Lenses in DESI Spectroscopy. *237th American Astronomical Society*, 53(1), jan 11 2021. <https://baas.aas.org/pub/2021n1i125p05>.