Noah R. Franz

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EDUCATION

B.S. in Physics & Applied Data Science **May 2023**
Siena College *Loudonville, NY*
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)

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 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

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Presentations

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