Resume of Jacob Ross Romeo

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EDUCATION

- PhD in Physics and Astronomy **(Fall 2024 - Present): CGPA 3.0**
- Bachelor of Science in Astronomy and Astrophysics **(Fall 2020 - Spring 2024): CGPA 3.2**
    - Minor in Computer Science and Applied Mathematics

SKILLS

- **Engineering:** Programming (Python, C++, Java), PCB Development (KiCad, Eagle), CAD (Fusion 360, Inventor).
- **Astronomy:** Programming (Python, ROOT), AstroImageJ (stacking, calibration, differential photometry, astrometry, fitting profiles), Period04 (frequency and amplitude spectrum, Fourier transform), TopCat (star catalogs, cone search, plotting), R-Spec (spectroscopy).

RELEVANT EXPERIENCE

(Research Lab) Research Assistant: Varner Lab **2024 - Present**

- Conducting research in collaboration with Belle II and SuperKEKB, currently working on the TOP project. Will start to conduct experimental research looking into specific particle decays of Leptons.
    - Upgrading TOP testbench to test components which will be installed on Belle II detector. Progress shown on GitHub at bit.ly/42hOyWN.

(Research Lab) Lead Research Intern: Engineering Physics Propulsion Lab **2021 - 2024**

- I worked on a variety of projects in this lab at ERAU and I continued to work in the lab until I graduated. The projects I worked on include topics of circuit design, programming, engineering physics, and optical physics.
    - **(Summer 2023)** The outreach periscope project was funded by ERAU to 3D print an optical system that allows for observations using the 1-meter telescope on campus. I was the PI for the project and submitted for publication but am waiting, the results can be seen on GitHub at bit.ly/periscope.
    - **(2021-2024)** 3D-Printed an attitude controller and published the works. This was to create a real-time system which researchers and students could test their control algorithms with. I was the PI on the project and it can be found on GitHub at bit.ly/3ytZWje and the publication at bit.ly/3QMorAZ.
    - **(2022-2024)** The Advanced LASER Mining Array consisted of simulations to implement a NIR Fiber LASER to mine water ice in space. I was the PI of this project and you can see the open-sourced research on GitHub at bit.ly/3Tf79M5.

(Research Assistant) Astronomer: Embry Riddle University **2022 - 2024**

- Working with Dr. Stephen Gillam, we researched rapidly oscillating Ap-stars and searched for candidates. I started the project with Dr. Gillam and am slowly continuing it and I hope to eventually publish the works. The progress can be seen on GitHub at bit.ly/43thTie.