Jacob F. Hansman

jacobfhansman@gmail.com https://www.linkedin.com/in/jacob-hansman/
(513) 508-2245 Tampa, FL 33606

Education

The University of Tampa | August 2020-May 2024 **Cumulative GPA:** 3.77/4.00
Bachelor of Science in Physics, Minor in Mathematics
Honors: Magna Cum Laude, Dean's List (2020-2023), UT Physics 2023-2024 Outstanding Student Outreach, UT 2022-2023 Outstanding Physics Student - Senior Class Award, Florida Iota Chapter Pi Mu Epsilon Member (Excellence in mathematics and general academics), The University of Tampa Phi Kappa Phi Honor Society Member (Academic excellence, top 10% of graduating class)
Miami University OH | 2018-2020
Undeclared Major (High School CCP Program)

Skills

Python, C++, LaTeX, Visual Basic, Microsoft Excel, Problem Solving, Mechanical/Electrical Design and Engineering, Experimental Design, Error Analysis, Data Analysis/Extraction/Formatting, Physics, Computational Physics, Mathematics, Photometric Analysis (Determination of Stellar Distances), Astronomy, Cosmology, Adobe Lightroom, Adobe Photoshop

Work Experience

University of Tampa | Tampa, FL Sep. 2022 – May 2024
Undergraduate Teacher Assistant | Courses: General Physics 1 & 2 Laboratory, Programming for the Physical Sciences
- Responsible for the assistance of instruction of course material and assistance with laboratory procedure
- Provided methodical, simplified approach to instruction and was requested to perform 1-on-1 tutoring by many students

All Options Health | Tampa, FL May 2023 – Aug. 2023
Data Analyst, Researcher
- Conducted in-depth research on current clientele demographics and created automated Python programs to extract potential future client data across the US via the internet and automatically convert this data to CSV format

PBJ&C Home & Lawn Care | Dayton, OH May 2022 – Aug. 2022
Co-CEO, Business Owner
- Successfully owned and managed a start-up construction and landscaping company, achieving remarkable results within a short period, thus demonstrating multifaceted exceptional business acumen and strategic decision-making

Research Experience

The University of Tampa Independent Researcher | Tampa, FL Aug. 2023 – May 2024
Motorization and Computerization of 1970s era UT Alumni Hand-Built Equatorial Telescope
- Motorization and computerization of a knob-controlled equatorial telescope built for the Tampa night sky is being performed via the implementation of Astropy scripting, stepper motors, planetary gearing, and Arduino control.
- Through applied engineering, computational physics via C++ and python, mechanical/electrical physics and engineering, experimental design, error analysis, and astronomy; this JWST actuator inspired implementation provides a low cost, low complexity solution for the modernization of outdated equatorial telescopes with an expected precision of less than 5 arcseconds, assisted "Go-To" slewing toward celestial objects, and optional motorized manual control.

The University of Tampa, Our Solar Siblings | Tampa, FL May 2023 – May 2024
Variable Star Photometry for Theoretical Period-Luminosity Equation Verification
- In an attempt to test and verify newly developed RR Lyrae Period-Luminosity equations by M. Catelan et al. (2004 & 2008), cadenced imaging and photometric analysis of 2 RR Lyrae variable stars, RU Scl and X Ari, and a classical Cepheid variable star, OP Pup, was performed with imaging via the Las Cumbres Observatory network and analysis via the *astrosource* python environment developed by M. Fitzgerald (2020).
- Photometric analysis yielded distance measurements to each star close to that of the parallax measurements made by the ESA's *Gaia* mission, verifying the majority of the theoretical equations utilized.

Leadership and Extracurricular Activities

The Society of Physics Students | Tampa, FL Aug. 2022 – May 2024

Secretary (2020-2022), Student Government Representative (2022-Present), Vice President (2022-Present)

- Demonstrated commitment to social and academic responsibility by assistance in leading multiple outreach projects for the local community, represented the society in UT Student Government meetings to secure financial support for society initiatives, provided individualized tutoring open to all UT students, and provided a yearly trip to the Kennedy Space Center in Cape Canaveral, FL to standing members

Atrium Medical Center | Middletown, OH May 2017 – May 2020

Emergency Room / Triage Desk Volunteer

- Responsible for the assistance in patient check-in/diagnosis, sanitation of rooms for patient use, assistance of disabled patients, and any other requested tasks by on-duty RNs

Relevant Coursework

Computer Sciences:

- Computational Physics, Python (A)
- Introduction to Programming, Visual Basic (AB)
- Introduction to C Programming, C++ (B)
- Programming for the Physical Sciences, LaTeX/Python (A)
- Adobe Photoshop (A)

Mathematics:

- Calculus 1, 2, 3 (AB, A, AB)
- Statistics (AB)
- Differential Equations (AB)
- Mathematical Methods for Physicists (A)
- Computational Linear Algebra (AB)

Physical Sciences:

- General Physics 1 & 2 + Laboratory (A)
- Astronomy & Space Physics (A)
- Energy and Environment (A)
- Geology (A)
- Modern Physics (AB)
- Classical Mechanics (AB)
- Electricity & Magnetism (B)
- Quantum Mechanics (A)
- Astrophysics (A)
- Thermodynamics & Statistical Mechanics (A)
- Special Topics in Physics: Galaxies (A)
- Special Topics in Physics: Cosmology (A)
- Advanced Physics Laboratory (A)