

Ruby Burgess

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EDUCATION

Bachelor of Science in Physics with minor in Mathematics, *Wheaton College*, Wheaton, IL May 2022

- GPA: 3.74/4.00
- Awarded 2021 Physics Merit Scholarship
- Member of the Sigma Pi Sigma Honor Society

COMPUTER SKILLS

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|--------|----------|---------|---------|
| • Java | • Matlab | • R | • LaTeX |
| • C | • Python | • Excel | |

EXPERIENCE

Research Intern, *New Jersey Institute of Technology*, Newark, NJ May 2021 – August 2021

- Participated in NJIT's Optics and Photonics REU summer program and researched the implementation of renewable energy powered stand-alone microgrids in residential communities under Dr. Philip W.T. Pong.
- Modeled different scenarios of wind and solar energy resource availability in several locations in the United States using System Advisor Model (SAM).
- Researched solutions for energy storage and overall system efficiency improvement.
- First author on a paper summarizing the results of a feasibility study in 15 locations across the US published at the 2022 6th International Conference on Green Energy and Applications.

Physics Teaching Assistant, *Wheaton College*, Wheaton, IL August 2019 – May 2022

- Oversaw 20 students weekly in completing introductory physics labs on concepts such as Newtonian mechanics, energy, waves, heat, electromagnetism, optics and modern physics.
- Graded homework for an introductory physics class and an upper-level classical mechanics class.
- Oversaw 15 students in an engineering lab using tools such as laser cutters, 3D printers and saws to build musical instruments in a physics of sound course.

Observatory Assistant, *Wheaton College*, Wheaton, IL August 2019 – May 2022

- Supervised Wheaton College's observatory with a team of three undergraduate students.
- Operated telescopes to assist students from an astronomy course to view various celestial objects.

Society of Physics Students Cabinet, *Wheaton College*, Wheaton, IL August 2019 – May 2021

- Co-led cabinet meetings with the President as Wheaton College's Society of Physics Students chapter Vice-President (May 2020 to May 2021).
- Participated in planning outreach, fundraising and department events.
- Managed the budget and finances of the chapter as Treasurer (August 2019 to May 2020).

LiDAR Engineering Project, *Wheaton College*, Wheaton, IL August 2019 – May 2020

- Participated in a student-led engineering project using LiDAR scanners to create a time-based 3D GIS mapping system of an excavation site in Israel.
- Corresponded with representatives at companies such as Honeywell to select an Inertial Measurement Unit (IMU) to improve the accuracy of the system.
- Wrote scripts in Python to integrate an IMU with a Velodyne VLP32C LiDAR scanner.

ADDITIONAL SKILLS

- Bilingual in French from living in France through high school.