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## EDUCATION

### Trinity University

San Antonio, TX

Aug 2020 – May 2024 (Expected)

- **B.S. in Physics, GPA: 3.716/4.0** *Minors in Astronomy & Mathematics*, Semmes Distinguished Scholar in Science
- **Relevant Coursework:** Stars & Galaxies, Solar System Astronomy, Astrophysics, Intro to Modern Physics, Classical Mechanics & Nonlinear Dynamics, Quantum Physics I, Electromagnetic Fields, Statistical Physics & Thermodynamics, Intro to General Relativity, Waves & Optics, Linear Algebra, Applied Differential Equations, Low-Level Computing, Discrete Structures.

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## LANGUAGES AND TECHNOLOGY

- Proficiency through coursework and research in Scala, Python, and tcsh; some experience in C and Java.
- Experience using astronomical tools including the CIAO software package (such as *Sherpa*) and SAOImageDS9 for research-related analysis and visualization.

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## RELEVANT EXPERIENCE

### Academic Work

- **Honors Thesis (in-progress) and related research**, *Fall 2021 - Present*
  - Honors Project, Fall 2023: Ongoing, *using Chandra X-ray observations of quadruply lensed quasars as a tool to constrain the size of the accretion disk.*
  - Research Talk/Honors Reading, Spring 2023: *"Using Quasars to Determine the Dark Matter Content of their Lensing Galaxies," presented to department after spending a semester extensively reading papers related to my research topic and gaining a comprehensive understanding of the scientific principles guiding it.*
  - AAS241 Poster: *"Improved X-ray Flux Determinations of Quadruply Lensed Quasars," focused on optimizing parameters for the software responsible for constructing the Chandra point-spread functions used in quasar modeling. Developed and implemented using shell script and Python code.*
- **Peer Tutor, Modern Physics**, *Fall 2022*
  - Invited by professor to become a peer tutor.
  - Conducted regular office hours for three hours every week to answer questions and guide students through weekly problem sets; additionally hosted exam review sessions and proctored final exam.
- **Peer Grader, General Physics I**, *Fall 2023*
  - Graded weekly homework for 24 students, scoring and providing feedback.

### Research Projects

- **University of Wisconsin REU**, *June - August 2023*, Project: *"Low energy calibration of X-ray Detectors"*
  - Worked under Prof Dan McCammon to conduct experiments and collect data related to proportional counters.
  - Using Fe-55 and Po-210 sources, operated proportional counter to record pulse height spectra and counting rates.
  - Performed maintenance work on the proportional counter, including fabricating new windows and constructing a new O-ring, to fix performance issues.
  - Project culminated in presentation to fellow REU students and their mentors, as well as to Trinity University's physics major seminar; will be presenting as AAS 243.
- **Trinity University Summer Research**, *May - July 2022*, Project: *"X-ray Observations of Supermassive Black Holes"*
  - Conducted independent research under the guidance of Prof David Pooley.
  - Obtained and fit radial profiles to compare the results of using different statistical models.
  - Utilized *Chandra* data, the CIAO software package, and SAOImageDS9 to begin analyzing observations of supermassive black holes.
  - Delivered a talk at the Summer Symposium, as well as a presentation to the physics major seminar, to present research methods and key findings.

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## OUTREACH

- **Scribe, WG 1, AWESOM SAG**, performed notetaker duties for the working group concerning an overview of the landscape of astrophysics at MSIs, CCs, PUIs, etc. of the Astrophysics With Equity: Surmounting Obstacles to Membership Science Analysis Group.
- **Trinity University's Society of Physics Students, Treasurer, 2 years**, *fulfilled treasurer duties for the university's SPS club and additionally created social media graphics to raise awareness of historic female physicists.*

- **Course: "Speaking Physics,"** a junior level course designed to train physics majors to become effective communicators in their field. Performed science demonstrations for elementary school students and presented a physics demonstration show to a general audience.