

# Tristan Parmerlee

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## EDUCATION

### Loyola University Chicago

*Bachelor of Science in Physics with Computer Science and Mathematics – Dean's List*

Chicago, IL

Aug. 2024 – Present

### Drake University

*Bachelor of Science in Physics, Astronomy, and Mathematics – Dean's List*

Des Moines, IA

Aug. 2022 – May 2024

## RESEARCH EXPERIENCE

### Northwestern CIERA REU

*Northwestern University*

June 2025 – Aug. 2025

Evanston, IL

- Conducted research focused on stellar collisions, dense galactic clusters, and machine learning.
- Participated in multiple career development programs, such as RCTP and Python Workshops.
- Prepared a writing deliverable, website, and poster related to project results.
- Future research ongoing during Fall 2025.

### Loyola Undergraduate Research

*Loyola University Chicago*

Aug. 2024 – Present

Chicago, IL

- Undergraduate research consisting of paper review of introductory cosmology and inflation.
- Examining how different inflation models affect the generation of primordial black holes.
- Further work supported by Mulcahy Scholarship.

### MISSFIT Student Research Lead

*Drake University*

Jan. 2023 – July 2024

Des Moines, IA

- Developed the artificial gravity project for the student-led MISSFIT collaboration.
- Designed 3-D printed proof of concept for a new approach to artificial gravity generator.
- Organized team schedule and meetings and designated projects to other members.
- Assisted in work of other subgroups, such as the computational and biological subgroups.

## RELEVANT COURSE WORK

### Loyola University Chicago

Aug. 2024 – Present

- Freshman Projects, Electronics, Theoretical Mechanics, Electricity and Magnetism, Thermal Physics and Statistical Mechanics, Undergraduate Research
- Introduction to Probability, Introduction to Real Analysis I, Introduction to Complex Analysis, Abstract Algebra
- Introduction to Computing Tools, Introduction to Object-Oriented Programming, Data Structures I and II

### Drake University

Aug. 2022 – May 2024

- Introduction to Physics I and II, Modern Physics, Introduction to Methods in Physics, Error Theory, Descript Astronomy, Astronomical Techniques
- Calculus I-IV, Linear Algebra, Ordinary and Partial Differential Equations, Math Reasoning (Discrete Math), Numerical Analysis

## AWARDS AND HONORS SOCIETIES

### Alpha Sigma Nu Honor Society Induction

Loyola University Chicago, 2025-2026

### Rataj Scholarship

Loyola University Chicago, 2025-2026

### Loyola University Chicago Mulcahy Scholarship

Loyola University Chicago, 2025-2026

### Sigma Pi Sigma (Physics Honor Society)

Loyola University Chicago, 2025

### Father Gerst Memorial Award

Loyola University Chicago, 2024-2025

### Putnam Competition Rank of 2566 out of 3857

MAA Putnam Competition, 2023

### ISGC Undergraduate STEM Research Scholarship

Iowa Space Grant Consortium, 2023-2024

### Drake Physics Prize Runner-Up Scholarship

Drake University, 2022-2024

## TECHNICAL SKILLS

**Languages:** Python, Java, C/C++, C#, Fortran, LaTeX, Unix, Red Hat Linux, PyTorch, Scikit-Learn, SLURM

**Developer Tools:** Git, VS Code, PyCharm, IntelliJ, Slurm

**Engineering Tools:** Fusion360, UltimakerCura, PrusaSlicer, LTSpice

## OUTREACH AND ACTIVITIES

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<b>LUC Physics Club President</b>   <i>Loyola University Chicago</i> <ul style="list-style-type: none"><li>• President of LUC Physics Club for the 2025-2026 school year.</li><li>• Organized events for members of the LUC Physics Department.</li><li>• Volunteered as a physics tutor for 100-level courses.</li></ul>	Aug. 2025 – Present
<b>LUC Mathematics Peer Tutor</b>   <i>Loyola University Chicago</i> <ul style="list-style-type: none"><li>• Paid math tutor for the LUC Tutoring Center.</li><li>• Assisted students with all 100-level courses as well as select 200-level courses.</li></ul>	Aug. 2025 – Present
<b>Loyolacappella</b>   <i>Loyola University Chicago</i> <ul style="list-style-type: none"><li>• Member of Loyola University Chicago's Premier All-Voice Acappella group.</li><li>• Served as Treasurer for the 2025-2026 school year.</li><li>• Hosted multiple on-campus performances for students.</li></ul>	Aug. 2024 – Present
<b>Brocal Chords</b>   <i>Drake University</i> <ul style="list-style-type: none"><li>• Member of Drake University's Premier Low-Voice Acappella group.</li><li>• Performed at multiple events both on and off campus.</li></ul>	Aug. 2023 – May 2024
<b>Drake University Mathematics Tutor</b>   <i>Drake University</i> <ul style="list-style-type: none"><li>• Paid math tutor for the Drake University Math Department.</li><li>• Completed a preparatory semester-long course before becoming eligible to tutor.</li><li>• Assisted students in calculus and linear algebra courses.</li></ul>	Jan. 2024 – May 2024
<b>Drake Municipal Observatory Volunteer</b>   <i>Drake University</i> <ul style="list-style-type: none"><li>• Volunteer at the Drake Municipal Observatory for weekly public nights.</li><li>• Set up telescopes for public viewings and provided informational speeches to general public about night sky objects.</li></ul>	Aug. 2022 – May 2024