

# WARREN “CHASE” CARSTENSEN IV

Computer Science and Mathematics Undergraduate

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## Education

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### Worcester Polytechnic Institute

Worcester, MA

Dual Bachelors of Science in Computer Science and Mathematical Sciences, 3.92 GPA

August 2022-May 2026

- **Extracurricular Activities:** WPI Jazz Groups
- **Affiliations:** IEEE, SIAM
- **Awards:** Dean's List Fall 2022-Spring 2025, Charles O. Thompson Scholar Designation

## Research Experience

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### Independent Study Project

Worcester, MA

Advisors: Prof. Walter Gerych

August 2025-Present

- Project: *Efficient and Minimally Invasive Debiasing of Pre-trained Models*
- Joined Prof. Walter Gerych's TrustAI lab.
- Studying existing test-time model debiasing techniques.
- Reproducing a state-of-the-art debiasing approach and assessing its effect on other forms of bias.

### Major Qualifying Project

Worcester, MA

Advisors: Prof. Daniel Reichman and Prof. Gabor Sarkozy

August 2025-Present

- Project: *RL-in-the-Box: Finding Long Induced Paths in the Hypercube with AI*
- Using heuristic search techniques (tabu search) and reinforcement learning (cross-entropy method, PatternBoost) to make progress on the snake-in-the-box problem.
- Developed new search methods for finding long induced paths in large graphs.

### CU Natural Language Processing REU

Colorado Springs, CO

Advisors: Prof. Jugal Kalita

May 2025-August 2025

- Project: *Using Large Language Models to Generate Counterexamples in Graph Theory*
- Developed a counterexample-focused dataset of natural language, graph-theoretic claims.
- Benchmarked the ability of LLMs to generate counterexamples to mathematical claims.

### WPI Data Science REU

Worcester, MA

Advisor: Prof. Elke Rundensteiner

April 2024-August 2024

- Project: *MInDS: Using Large Language Models to Screen for Depression*
- Used NLP techniques and LLMs to develop methods for automated depression screening.
- Designed and implemented data pipelines for open-source LLMs using Python and the Transformers library.
- First author of a research paper presented at the MIT Undergraduate Research Technology Conference, and continued the work as an Independent Study Project.

## Academic Experience

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### Upsilon Pi Epsilon, Massachusetts Alpha

Worcester, MA

Events Coordinator - Advisor: Prof. Craig Wills

January 2025 - Present

- Assisted the Career Officer in planning UPE's annual honor society career fair.
- Planned all organizational events and coordinated member volunteering.

### Pi Mu Epsilon, Massachusetts Alpha

Worcester, MA

President - Advisor: Prof. Brigitte Servatius

September 2024 - Present

- Led WPI's chapter of the National Mathematics Honors Society, Pi Mu Epsilon.
- Rebuilt this dormant organization by restructuring the executive board, improving the application and induction process, and re-establishing campus presence.

### WPI Math Department

Worcester, MA

Peer Learning Assistant

August 2023 - Present

- Led weekly discussion periods and held office hours for classes of ~35 students.
- Worked a weekly shift in the Math Tutoring Center.
- Graded assignments and exams.
- Worked with multiple Professors, TAs, and other PLAs for Calculus I-IV, and Theoretical Calculus III-IV.

## Awards

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- **CRA Travel Grant**, October 2024, to present at the MIT Undergraduate Research Technology Conference