

# Christian Lentz

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## Education

### Macalester College

BA, Mathematics and Computer Science

St. Paul, MN

09/2020 - 05/2024

- Cumulative GPA: 3.96 / 4.0
- Summa Cum Laude
- Honors Thesis: [Persistent Relative Homology for Topological Data Analysis](#)

### Oxford University

Visiting Student, Mathematics

Oxford, England, UK

01/2023 - 06/2023

- Relevant Coursework: Real Analysis, Groups and Group Actions, Number Theory

### University of Wisconsin

Visiting Student, Mathematics

Madison, WI

06/2022 - 08/2022

- Relevant Coursework: Ordinary Differential Equations, Combinatorics

## Experience

### Maverick Software Consulting

QA Software Engineer, Internship

Minneapolis, MN

06/2022 - 01/2023

- Contracted with TravelNet Solutions of Cottage Grove, MN.
- Reference: [Tracy Olhausen](#), Senior Director of Quality Assurance.
- Manual / regression testing and test case documentation for frontend and backend.
- Contributed to automated test framework using JavaScript, Playwright, CSS.
- Experience with agile / scrum methodologies.
- Frequent participation with code review and GitHub issue management.

### Macalester College

Teaching Assistant

St. Paul, MN

01/2022 - 05/2024

- Courses: Linear Algebra, Statistical Modeling, Computational Geometry, Algorithms.

### University of Minnesota

Research Assistant

Minneapolis, MN

05/2023 - 07/2023

- Research in Algebraic and Computational Topology, project advised by [Lori Ziegelmeier](#) (Macalester Col.) and [Greg Henselman-Petrusek](#) (PNNL).
- In progress contribution to open-source software [Open Applied Topology](#)

## Skills

**Languages** | Python , Java, JavaScript, R , Rust , C

**Front End** | HTML, CSS

**Backend** | Node.js, Google Firebase

**Miscellaneous** | VS Code, Git/GitHub, Jira, Mathematica

**Data Science** | NumPy, SciPy, matplotlib, RStudio, dplyr, tidyr, ggplot

**General** | customer service, teaching, presentation, agile/scrum, technical & academic writing, literature review

## Talks & Presentations

### *A Computational Approach for Persistent Relative Homology*

- 2023 Fall Meeting of the Mathematical Association of America NCS, University of Minnesota-Duluth, September 2023
- Macalester College Summer Showcase, St. Paul, MN, October 2023
- AIM-AMS Special Session on Applied Topology Beyond Persistence Diagrams, 2024 Joint Mathematics Meetings, San Francisco, CA, January 2024
- PME Undergraduate Student Poster Session, 2024 Joint Mathematics Meetings, San Francisco, CA, January 2024

### *Persistent Relative Homology for Topological Data Analysis*

- Undergraduate Honors Defense, Macalester College Department of Mathematics, Statistics and Computer Science, St. Paul, MN, April 2024

## Awards & Honors

### Konhauser Achievement Award, Mathematics

Macalester College, 2024

For outstanding academic record and demonstrated dedication to and interest in the field.