

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

University of Wisconsin

Visiting Student, Mathematics

Madison, WI

06/2022 - 08/2022

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.

Courses

Object Oriented Programming
Algorithm Design & Analysis
Introduction to AI
Software Development
Combinatorics
Ordinary Differential Equations
Mathematical Modeling
Computational Linear Algebra
Complex Analysis

Data Structures
Theory of Computation
Computer Systems
Discrete Mathematics
Probability
Statistical Modeling
Multivariable Calculus
Real Analysis

