Christian Lentz

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Personal Website | christianlentz234@gmail.com | LinkedIn

Education

Macalester College | St. Paul, Minnesota | 09/2020 - 05/2024

- Bachelors of Arts in Mathematics and Computer Science
- Overall GPA: 3.96
- Summa Cum Laude
- Honors Thesis: Persistent Relative Homology for Topological Data Analysis
- Advisors: Lori Ziegelmeier, Susan Fox

Oxford University | Oxford, England, United Kingdom | 01/2023 - 06/2023

- Visiting Student at St. Catherine's College, Mathematics
- Relevant Coursework: Real Analysis, Groups and Group Actions, Number Theory

University of Wisconsin | Madison, Wisconsin | 06/2022 - 08/2022

- Visiting Student, Mathematics
- Relevant Coursework: Ordinary Differential Equations, Combinatorics

Relevant Experience

QA Engineering Intern | 06/2022 - 01/2023

Maverick Software Consulting - Minneapolis, MN

- Contracted with TravelNet Solutions of Cottage Grove, MN.
- Supervisor: Tracy Olhausen (tracyolnhausen@gmail.com), Senior Director of Quality.
- Manual and automated software testing with two development teams: API and Finance.
- Reproduction and documentation of bugs in production code.
- Contributed to automated test framework; JavaScript, Playwright, CSS.
- Experience with agile development / scrum teams.
- Frequent participation with code review and GitHub issue management.

Teaching Assistant | 01/2022 - 05/2024

Macalester College MSCS Department - St. Paul, MN

- Attended lectures, held office hours, graded submitted code, proofs and problem sets.
- Courses: Linear Algebra, Statistical Modeling, Computational Geometry, Algorithms

Undergraduate Research Assistant | 05/2023 - 07/2023

University of Minnesota - Minneapolis, MN

- Advisors: Lori Ziegelmeier (lziegel1@macalester.edu), Macalester College and Greg Henselman-Petrusek (gregory.roek@pnnl.gov), Pacific Northwest National Laboratory.
- Research in Algebraic and Computational Topology.
- In progress contribution to open-source project Open Applied Topology with Rust programming language

Talks and Presentations

A Computational Approach for Persistent Relative Homology

- 2023 Fall Meeting of the Mathematical Association of America, North Central Section**,** 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

Publications

G. Henselman-Petrusek**, C. Lentz*, X. Xia*, L. Ziegelmeier* (2024). *A computational approach for persistent relative homology*. [manuscript in preparation]. Department of Mathematics, Statistics and Computer Science, Macalester College*. Pacific Northwest National Laboratory**.

Awards and Honors

Konhauser Achievement Award for Mathematics**,** Macalester College, 2024

Relevant Skills

Languages: Python, Java, JavaScript, R, Rust, C
Technologies: HTML, CSS, Node.js, VS Code, Google Firebase, Playwright, GitHub, Jira, Mathematica, RStudio
General: Customer Service, Teaching,