Jason Ranoa · Curriculum Vitae

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Education

1. **Oregon State University** *Corvallis, OR 97331*
   MS in Mathematics *September 2021 - Present*
   — 2nd year graduate student currently working under **Dr. Christine Escher** doing an expository paper on **Ripser**, Dr. Ulrich Bauer's software package that applies algebraic topology to quantify the shape of point cloud data. More information on the topic can be found on ripser.org.
   — Expected Graduation Date: **June 2023** (end of Summer 2023 term)

2. **University of Wisconsin-Parkside** *Kenosha, WI 53144*
   BS in Mathematics, Minor in Computer Science *September 2019 - May 2021*
   — Graduated magna cum laude with 3.892 GPA

3. **McHenry County College** *Crystal Lake, IL 60012*
   Associate Degree in Science *September 2016 - May 2019*

Teaching/Tutoring Experience

1. **Graduate Teaching Assistant** *Corvallis, OR 97331*
   Oregon State University *September 2021 - Present*
   — **Teaching Assignments (in-person)** involves leading recitation sessions (80 minutes per week per section) each consisting of a maximum of 35 students:
     · MTH 227 Calculus and Probability for the Life Sciences *(2 Sections for Winter 2023)*
     · MTH 228 Calculus and Probability for the Life Sciences *(3 sections for Spring 2023)*
     · MTH 241 Calculus for Social Sciences *(3 Sections for Fall 2021, 3 Sections for Fall 2022)*
     · MTH 251 Differential Calculus *(3 Sections for Spring 2022)*
     · MTH 252 Integral Calculus *(3 Sections for Winter 2022)*

     General Responsibilities: facilitating group work on worksheets, proctoring quizzes and exams, grading coursework, providing meaningful feedback on student work, holding office hours (regular drop-in and/or by appointment), communicating with the instructor of record to achieve course goals.
   — **Grading Assignments (virtual via e-campus):**
     · MTH 105 Introduction to Contemporary Mathematics *(60 students, Summer 2022)*

2. **Undergraduate CS Grader** *Kenosha, WI 53144*
   University of Wisconsin-Parkside *September 2020 - May 2021*
   — **CSCI 340 Data Structures and Algorithms** under Dr. Viji Ramasamy, Spring 2021.
     Graded homework written in Java and provided feedback to students.
   — **CSCI 245 Assembly Language Programming** under Dr. Susan Lincke, Fall 2020.
     Graded worksheets and homework (written in MIPS). Provided feedback to students while managing re-submissions/corrections for credit.

3. **Drop-in Math Tutor (In-person and Virtual)** *at Multiple Colleges/Universities.*
   — **Oregon State University**, Corvallis, OR *(September 2021 - Present)*
     At the Mathematics and Statistics Learning Center (MSLC). Offered in-person tutoring and virtual tutoring (via Teams). Tutored lower division and select upper division mathematics.
   — **Linn-Benton Community College**, Albany, OR *(January 2022 - May 2022)*
     Virtual via Zoom. Tutored lower division mathematics.

- **College of Lake County**, Grayslake, IL
  (August 2019 - May 2020), In-person tutoring; and *(September 2020 - July 2021)*, Virtual tutoring via Zoom. Tutored lower division mathematics and introductory general chemistry.
- **McHenry County College**, Crystal Lake, IL *(January 2018 - May 2019)*
  In-person at the Sage Learning Center. Mathematics and chemistry peer-tutor.

4. **Private Tutor** *(one-on-one sessions, December 2018 - April 2020). Subjects include:*
   - Elementary and Intermediate Algebra.
   - Introductory Discrete Mathematics.
   - Introductory Linear Algebra.
   - High-School Geometry.
   - Introductory and General Chemistry.

Scholarly Activity and Professional Development

1. **Engaged Learning, Inclusive Teaching, and Equity: Professional Development (ELITE PD).**
   September 2021 - May 2023. Fellow. **IN-PROGRESS**

   ELITE PD is an NSF-funded study investigated by Dr. Mary Beisiegel on the preparation of math graduate teaching assistants (MGTAs) to improve the success of students in undergraduate math courses.

   Completed elements of the ELITE PD program:
   - Fall 2021 Teaching Seminar, Dr. Mary Beisiegel.
   - Fall 2022 Seminar, Dr. David Fifty: Introduction to Equity and Active Learning.
   - Formal observation and evaluation of a class session in OSU's Educational Opportunity Program (EOP).
   - Development and evaluation of an active learning activity/structure for a mathematics course.
   - Evaluation and reflection of my own teaching practice as an MGTA.

   Elements in-progress:
   - Winter 2023 Seminar, Dr. David Fifty: Advanced Active Learning and Equity.

2. **OMSI Science Communication Fellowship. Spring 2023 Cohort.**
   January 2023 - May 2023. Funded Participant. Recommended by OSU College of Science. **IN-PROGRESS**

   The Fellowship workshop by Oregon Museum of Science and Industry (OMSI) provides communication training grounded in research around best practices in informal STEM education.

   Participation in the program required the following:
   - OMSI's Science Communication "Short Course", a series of four professional development workshops. Completed the first workshop as of January 2023.
   - Collaboration with museum educators to develop a unique, interactive, hands-on activity targeted to museum visitors (who may not be familiar with scientific)
   - Participation in a minimum of three public programs a year.

Experience in Instructional Tools

1. **Canvas**. *2 years experience, instructor-side.*
   Structuring and organizing modules and course materials, creating assignments and submission boxes, setting deadlines, publishing announcements, etc.

2. **LaTeX + Overleaf**. *3 years experience.*
   Typesetting homework (mostly upper division and graduate level math); Creating formatted worksheets, handouts, and exams; Experience with the TikZ and Pgfplots packages for generating visuals.

3. **Gradescope**. *2 years experience, instructor- and grader-side.*
   Grading quizzes and exams with consistent, concise, and descriptive rubrics; Organizing submission boxes for homework/activities; Scanning in quizzes/exams for grading; Importing grades to Canvas; Responding to regrade requests; Publishing quiz results and feedback to students.

4. **Zoom**. *4 years experience, instructor-side.*
   Writing on a shared whiteboard or screen as whiteboard-alternative when explaining mathematics (usually with an iPad, sometimes with a drawing tablet); Setting up regular/one-off meetings and appointments (e.g. for office hours).

5. **Desmos, GeoGebra, and various graphing software**. *4 years experience.*
   Creating visual models and representations of math concepts such as tangent lines, linearization, and curvature; and sharing such models.

6. **Various programming languages for modeling**.
   · MATLAB (1 quarter, for 500-level numerical linear algebra)
   · Mathematica (1 quarter)
   · Java (two years, graded for a 300-level data structures class)
   · MIPS (one year, graded for a 200-level class)
   · C++ (one year, 100-level courses)
   · Some experience with Python, PHP, HTML/CSS, JavaScript, SQL

7. **Calendly, Appointlet, and various scheduling software**. *1 year experience.*
   Streamlining the process for arranging office hours by appointment (e.g. students can use the scheduler at any time, scheduler is linked to personal/work calendar to reflect availability)

Conferences and Seminars Attended

1. **Math for All Conference 2023.** *Attendee.*
   Oregon State University, February 24-25, 2023.

2. **Pacific Northwest Geometry Seminar.** *Funded Attendee.*
   Seattle University, November 5-6, 2022.

3. **Graduate Geometry/Topology Seminar.** *Attendee.*
   Oregon State University, Every Monday for Fall 2022 and Winter 2023.

Notable Coursework

1. **Point-Set and Algebraic Topology.** Relevant courses taken at **OSU** include:
   · MTH 634/635/636 Algebraic Topology sequence
   · MTH 531/532 General Topology sequence
   · MTH 644 Abstract Algebra I
   · MTH 543 Abstract Linear Algebra
   · MTH 551 Numerical Linear Algebra

2. **Mathematics Education.** Relevant courses taken at **OSU** include:
   · MTH 689 Topics in Math Education.
     Fall 2021 Topic: Mathematical Knowledge for Teaching

3. **Real Analysis and Differential Geometry.** Relevant courses taken at **OSU** include:
   · MTH 511 Real Analysis

- MTH 512 Measure and Integration Theory
- MTH 611 Complex Analysis
- MTH 534/535 Differential Geometry sequence

4. **Computer Science (undergraduate-level).** Relevant courses taken at **UW-Parkside** include:
   - Introduction to Data Science
   - Data Structures and Algorithm Design
   - Computational Models
   - Computer Architecture
   - Programming Languages