

# Curriculum Vitae

## Bradley McCoy

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### Education.

- **Montana State University.** Ph.D. Computer Science (Expected 2024).
- **Western Washington University.** M.S. Mathematics (2012).
- **Mercyhurst University.** B.A. Mathematics, Mathematics Education (2008).

### Appointments.

- **Montana State University.** Teaching and Research Assistant (2018-present).
- **Western Washington University.** Mathematics Instructor (2012-2018).
- **Johns Hopkins University Center for Talented Youth.** Mathematics Instructor (Summers 2013, 2014, 2015).
- **Western Washington University.** Teaching Assistant (2010-2012).

### Research Papers.

1. **From Curves to Words and Back Again: Geometric Computation of Minimum-Area Homotopy.** Joint with Hsien-Chih Chang, Brittany Terese Fasy, David L. Millman, Carola Wenk. To appear.
2. **Ant and Bear Dance for Dokweebah: Using a Skokomish Story to Engage Middle School Students in Event-Driven Programming.** Joint with Jacob Chipps, Brittany Terese Fasy, Stacey Hancock. CoNECD Conference
3. **Trees maximizing the number of almost-perfect matchings.** Joint with Stijn Cambie, Gunjan Sharma, Stephan Wagner, Corrine Yap. Available at <https://arxiv.org/abs/2209.03408>.
4. **Catching Polygons.** Joint with Eli Quist, Anna Schenfisch. Available at <https://arxiv.org/abs/2201.01286>.
5. **If You Must Choose Among Your Children, Pick the Right One.** Joint with Benjamin Holmgren, Brittany Terese Fasy, David Millman. Available at <https://arxiv.org/abs/2103.13882>.

### Selected Talks.

- **Minimum Homotopy Area** SIAM Pacific Northwest Section, 2022.
- **Catching Polygons** Fall Workshop on Computational Geometry, 2021.
- **As Seen On TV: Examples of Calculus on Television** Washington Two-Year College Mathematics Conference, 2015.

## Service.

### **Storytelling Project**

- Develop culturally responsive curriculum that engages American Indian and rural students in computer science. (2018-present).
- Taught many outreach events aimed at increasing participation in computer science among underrepresented groups (2018-present).

### **Reviewer**

- External Reviewer Symposium on Computational Geometry (2019,2021).
- External Reviewer Canadian Conference on Computational Geometry (2020,2021).
- External Reviewer European Workshop on Computational Geometry (2019).

### **Science Olympiad**

- Organized Montana Science Olympiad Codebusters event (2021-2022).

## Teaching.

### **Montana State Instructor**

- Basic Data Structures and Algorithms
- Data Structures and Algorithms
- Discrete Mathematics

### **Montana State Teaching Assistant**

- Advanced Algorithms
- Social and Ethical Issues in Computer Science
- Programming Languages
- Discrete Mathematics

### **Western Washington Instructor**

- Pre-Calculus I and II
- Calculus I, II and III
- Introduction to Statistics
- Introduction to Proofs
- Linear Algebra I and II
- Calculus based Statistics