

Curriculum Vitae

Bradley McCoy

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. **Guarding Precise and Imprecise Polyhedral Terrains with Segments** [To appear] Joint joint with Aakash Dutt, Binhai Zhu. To appear.
2. **Ant and Bear Dance for Dokweebah: Using a Skokomish Story to Engage Middle School Students in Event-Driven Programming.** Joint with Joseph Chipps, Brittany Fasy, Stacey Hancock
3. **Integrating Computer Science into Middle School Curricula Through Storytelling: A Lesson Plan on Beaded Bags of the Columbia Plateau** [ACM Global Computing Education Conference 2023] joint with Barbara Do Amaral, Brittany Fasy, Olivia Firth, Stacey Hancock, Patrick Jeffers, Barbara Komlos, Sweeney Windchief.
4. **From Curves to Words and Back Again: Geometric Computation of Minimum-Area Homotopy** [WADS2023: 18th Algorithms and Data Structures Symposium] joint with Hsien-Chih Chang, Brittany Terese Fasy, David L. Millman, Carola Wenk.
5. **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>.
6. **Catching Polygons** [Fall Workshop on Computational Geometry 2021] joint with Eli Quist, Anna Schenfisch. Available at <https://arxiv.org/abs/2201.01286>.
7. **If You Must Choose Among Your Children, Pick the Right One** [Canadian Conference on Computational Geometry 2020] joint with Benjamin Holmgren, Brittany Terese Fasy, David Millman. Available at <https://arxiv.org/abs/2103.13882>.

Selected Talks.

- **From Curves to Words and Back Again** Algorithms and Data structures, 2023.
- **From Curves to Words** Young Researchers Forum, 2023.
- **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).
- Published research papers on serving underrepresented groups in computer science (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