Curriculum Vitae
Bradley McCoy
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Appointments.
- **James Madison University**. Assistant Professor (2024-present).
- **Montana State University**. Teaching and Research Assistant (2018-2024).
- **Western Washington University**. Mathematics Instructor (2012-2018).
- **Johns Hopkins University Center for Talented Youth**. Mathematics Instructor (Summers 2013, 2014, 2015).

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

Research Papers.
1. **Visibility Optimization on Imprecise Terrains**. [Fall Workshop on Computational Geometry 2025] Joint with Nathan Baker, Binhai Zhu.

2. **Optimistic Imprecise Watchtower in 1.5D and 2.5D**. [Submitted 2025] Joint with Binhai Zhu.

3. **Trees maximizing the number of almost-perfect matchings**. [Applicable Analysis and Discrete Mathematics 2025] Joint with Stijn Cambie, Gunjan Sharma, Stephan Wagner, Corrine Yap.

4. **Bounding mean orders of sub-k-trees of k-trees**. [The Electronic Journal of Combinatorics 2024] Joint with Stijn Cambie, Stephan Wagner, Corrine Yap.

5. **Guarding Precise and Imprecise Polyhedral Terrains with Segments** [Conference on Combinatorial Optimization and Applications 2023] Joint with Aakash Dutt, Binhai Zhu.

6. **Ant and Bear Dance for Dokweebah: Using a Skokomish Story to Engage Middle School Students in Event-Driven Programming** [ACM Global Computing Education Conference 2023] Joint with Joseph Chipps, Brittany Fasy, Stacey Hancock

7. **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.

8. **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.

9. **Catching Polygons** [Fall Workshop on Computational Geometry 2021] joint with Eli Quist, Anna Schenfisch.

10. **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.

Software.

1. **Possion Disk Sampling** Computational Geometry Algorithms Library (CGAL) (2024).

Selected Talks.

- **Visibility on Imprecise Terrains** Banff International Research Station (2026).

- **Imprecise Watchtowers** Symposium on Computational Geometry (2025).

- **Mean orders of sub-k-trees of k-trees** Canadian Discrete and Algorithmic Mathematics Conference (2025).

- **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
- Reviewer Journal of Computer and System Sciences (2026).

- External Reviewer International Workshop on Combinatorial Algorithms (2025).

- External Reviewer European Workshop on Computational Geometry (2025).

- External Reviewer Symposium on Computational Geometry (2019, 2021,2022,2025).
- External Reviewer ACM Capital Region Celebration of Women in Computing (2025).
- External Reviewer Canadian Conference on Computational Geometry (2020,2021).
- External Reviewer European Workshop on Computational Geometry (2019,2025).

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

Teaching.

James Madison
- Discrete Structures I and II
- Computational Geoemtry

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