Lucia Williams

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Education

Montana State University (MSU)
Ph.D., Computer Science, 2017-present
Advisor: Brendan Mumey
Dissertation: Flow Decomposition Algorithms for Multiassembly Problems

University of Washington
B.S., Applied Computational and Mathematical Sciences, 2014
B.A., Community, Environment, and Planning, 2014
Minor: Mathematics

Work

Research Assistant
School of Computing, MSU, 2017-present

Visiting PhD Researcher
Graph Algorithms Group, University of Helsinki, fall 2021

Instructor
MSU
- C Programming, summer 2021
- Python Programming, summers 2020 and 2019

Data Scientist
Marchex (online advertising company), 2014-2017

Data Visualization Intern
Mazama Science (data visualization consulting company), 2013

REU Student
MSU, summer 2013
Project: An integer linear programming solution to the collaborative group provisioning problem.

Grader
University of Washington, 2012-2014
Courses: Real Analysis, Linear Algebra, Multivariable Calculus, Discrete Mathematical Modeling

Publications

Fernando Dias, Lucia Williams, Alexandru I. Tomescu, Brendan Mumey.
Fast, Flexible, and Exact Flow Decompositions via ILP.
Accepted at RECOMB 2022.

Shahbaz Khan, Milla Kortelainen, Manuel Caceres, Lucia Williams, Alexandru I. Tomescu.
Safety and Completenes in Flow Decompositions for RNA Assembly.
Accepted at RECOMB 2022.

Lucia Williams, Alexandru I. Tomescu, Brendan Mumey.
Flow Decomposition with Subpath Constraints.
21st International Workshop on Algorithms in Bioinformatics (WABI). 2021

Lucia Williams, Brendan Mumey.
Maximal Perfect Haplotype Blocks with Wildcards.
iScience, vol 101149. 2020.
DOI: https://doi.org/10.1016/j.isci.2020.101149

Lucia Williams, Brendan Mumey.
Extending Maximal Perfect Haplotype Blocks to the Realm of Pangenomics.
Algorithms for Computational Biology (AlCoB).
Lecture Notes in Computer Science, vol 12099. 2020.

Robin Lynne Belton, Brittany Terese Fasy, Rostik Mertz, Samuel Micka, David L. Millman, Daniel Salinas, Anna Schenfisch, Jordan Schupbach, Lucia Williams.
Reconstructing Embedded Graphs from Persistence Diagrams.
Computational Geometry, 2020.

Lucia Williams, Gillian Reynolds, Brendan Mumey.
RNA Transcript Assembly Using Inexact Flows.
IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 2019.

Posters

Decomposing inexact flows with application to RNA transcript assembly.
Research in Computational Molecular Biology (RECOMB), May 2019, Washington, D.C.

Awards & Fellowships

Finalist
MSU Three Minute Thesis, February 2022

Outstanding PhD Researcher Award
MSU Computer Science Department, 2020-2021

Benjamin Fellowship
MSU College of Engineering, 2017-2018

Travel & Conference Awards

- MSU School of Computing award to attend the Tapia Celebration of Diversity in Computing, fall 2020
- MSU Graduate School Professional Advancement Grant, spring 2020
- Montana INBRE Competitive Student Travel Award, spring 2019

Workshops

Computing Research Association Grad Cohort for Women

- Chicago, 2019
- San Francisco, 2018

Service

Conference Volunteer

Research in Computational Molecular Biology (RECOMB), spring 2019

Organizer or Co-organizer

- MSU Graduate Career Ladder Program, spring 2022
- MSU computer science graduate student lunch series, fall 2021, funded by a Community Building Mini-Grant from the MSU Graduate School
- MSU Department of Computer Science prospective student visit day, spring 2019 and 2020
- MSU Department of Computer Science new graduate student orientation, fall 2020

Ultimate Frisbee Coach

- MSU women's club, 2018-present
- University of Washington women's club, 2015-2017

References

Dr. Brendan Mumey
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Dr. David Millman
Computer Science
Montana State University
david.millman@montana.edu
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