

Alyx Burns

alyxanderbur@cs.umass.edu
people.cs.umass.edu/alyxanderbur

Education

Expected 2023	Ph.D. in Computer Science , University of Massachusetts Amherst
Feb. 2020	M.S. in Computer Science , University of Massachusetts Amherst
May 2017	B.A. in Computer Science , Mount Holyoke College

Teaching Experience

Instructor of Record

University of Massachusetts Amherst

Fall 2021	Do Data Speak for Themselves? (First-year seminar, 2 sections)
Fall 2021	Math Puzzles (First-year seminar, 2 sections)
Summer 2021	Creative Coding & Data Visualization (Pre-college program, online)
Summer 2020	Introduction to Programming (Pre-college program, online)
Summer 2019	Circuits, Robotics, and Arduino (Pre-college program)

Mount Holyoke College

Spring 2020	Introduction to Computational Problem Solving: 'Big Data'
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Teaching Assistant

Spring 2021	Advanced Methods in Human-Computer Interaction
Spring 2021	Introduction to Social & Cultural Analytics
Fall 2020	Introduction to Human-Computer Interaction
Fall 2017 - 2019	What's in the Box: How Computers Work
Spring 2019	Introduction to Programming with Python
Spring 2018	Make: Physical Computing

Pedagogical Training

2021	Essentials of Online Teaching, UMass Amherst 6-week course on how to develop and teach an online course, taught by the UMass Amherst Instructional Design, Engagement, & Support (IDEAS) team
2020	Online Faculty Development Course, UMass Amherst 4-week course on the instructional and technical aspects of online teaching, facilitated by the UMass Amherst Instructional Design, Engagement, & Support (IDEAS) team

Mentorship

Program Development

- 2020 Translated curricula from Mount Holyoke College's Megas and Gigas Educate (MaGE) near-peer mentorship program for use by Microsoft
- 2018 Assisted the CICS Diversity Committee in the creation of a new near-peer undergraduate mentorship program for underrepresented students in computing
- 2017 Developed course materials for Mount Holyoke College's Megas and Gigas Educate (MaGE) near-peer mentorship program

Direct Mentorship

- 2021 EMBER Research Mentor
4-week research apprenticeship for underrepresented undergraduates in computing
- 2020 - 2021 Stonewall Center Mentor
Peer mentorship and support for LGBTQ+ UMass Amherst students
- 2020 PhD Applicant Support Program Mentor
Reviewed application drafts of prospective underrepresented PhD students
- 2019 New Graduate Student Mentor
Peer mentorship and support for new CICS PhD students

Publications

Alyxander Burns, Cindy Xiong, Steven Franconeri, Alberto Cairo, and Narges Mahyar. "Designing with pictographs: Envision topics without sacrificing understanding." To appear in *IEEE Transactions on Visualization and Computer Graphics*, 2021, 13 pages.

Alyxander Burns, Cindy Xiong, Steven Franconeri, Alberto Cairo, and Narges Mahyar. "How to evaluate data visualizations across different levels of understanding." 2020 IEEE Workshop on Evaluation and Beyond - Methodological Approaches to Visualization (BELIV), 2020, pp. 19-28.

Andrew Cunningham, **Alyxander Burns**, and Narges Mahyar. "Looking to the past to visualize the present: Revisiting W.E.B. Du Bois' abolitionist visualizations." Posters of IEEE VIS 2020, 2020, 2 pages.

Alyxander Burns, Peter Klemperer, Jaemarie Solyst, and Audrey St John. "Redundant persistent acyclic formations for vision-based control of distributed multi-agent formations." In *Proceedings of the 31st Canadian Conference on Computational Geometry*, 2019, pp. 29-37.

Alyxander Burns, Bernd Schulze, and Audrey St John. "Persistent multi-robot formations with redundancy." In *Distributed Autonomous Robotic Systems*, 2018, pp. 133-146.

Scholarships and Fellowships

- 2021 EMBER Mentorship Scholarship
University of Massachusetts Amherst
- 2018 Robin Popplestone Fellowship in Robotics & Artificial Intelligence
University of Massachusetts Amherst

Conference Activity

Paper Presentations

- 2020 “How to evaluate data visualizations across different levels of understanding”
2020 IEEE Workshop on Evaluation and Beyond – Methodological Approaches to Visualization (BELIV); October 25-29, 2020
- 2016 “Persistent multi-robot formations with redundancy”
2016 IEEE International Symposium on Distributed Autonomous Robotic Systems (DARS); November 7-9, 2016

Attendance

- 2021 ACM Conference on Human Factors in Computing Systems (CHI)
- 2020 IEEE Visualization Conference (VIS)
- 2016 IEEE International Symposium on Distributed Autonomous Robotic Systems (DARS)

Campus Invited Talks

- 2020 “Looking to the Past to Visualize the Present: Revisiting W.E.B. Du Bois’ Abolitionist Visualizations”
CICS Community Discussion on Antiracism, University of Massachusetts Amherst
- 2020 “Communicating with your Teaching Team” (Pre-recorded)
Teaching Academy, Graduate Student Orientation, University of Massachusetts Amherst

Service

University Service

- 2020 — Committee Member, CICS Committees Against Racism and for Equality (CARE)
- 2019 — HCI-VIS Lab Website Administrator

Professional Service

- 2020 - 2021 Reviewer, IEEE VIS
- 2021 Reviewer, ACM Creativity & Cognition
- 2020 Student Volunteer, IEEE VIS

Community Outreach

- 2017 - 2019 Eureka! Creative Computing Workshop Mentor, Girls Inc. of Holyoke
- 2017 - 2019 Panelist, “The Graduate School Option,” Mount Holyoke College