

# RaecheL Walker

✉ [raechelw@media.mit.edu](mailto:raechelw@media.mit.edu) • 🌐 [www.media.mit.edu/people/raechelw/](http://www.media.mit.edu/people/raechelw/)  
in [raechel-walker](#)

## Education

<b>Massachusetts Institute of Technology</b> <i>Ph.D. in Media Arts and Sciences</i>	<b>Cambridge, MA</b> <i>09/2023 - 05/2026</i>
Dissertation title: Crown vs a Question Mark: Integrating Critical Reflexivity into Responsible AI Principles	
<b>Massachusetts Institute of Technology</b> <i>M.A. in Media Arts and Sciences</i>	<b>Cambridge, MA</b> <i>09/2021 - 05/2023</i>
Thesis title: Liberatory Computing: Empowering Students to Mitigate Systemic Oppression Data Activism	
<b>University of California, San Diego</b> <i>B.S. in Data Science</i>	<b>San Diego, CA</b> <i>09/2017 - 06/2021</i>

## Research Interests

I coined the framework "liberatory computing" to ensure that minoritized youth can leverage their computing skills to challenge systemic oppression. To bring this framework to life, I founded the Data Activism Program, which empowers youth, social justice organizations, AI developers, and data scientists with liberation tools and data science skills to advance equity-centered innovation. My research advances reflexivity as a unifying principle that strengthens the entire K–12-to-Workforce AI ecosystem, transforming how youth, professionals, and community organizers design and use AI.

## Honors & Awards

<b>2025: Google AI Career Pathways at Community Colleges (\$7 million)</b>
<b>2025: Best Paper Award, Research on Equity and Sustained Participation in Eng., Computing, and Tech.</b>
<b>2025: MIT IDEAS Social Innovation Challenge (\$10k), MIT Priscilla King Gray Public Service Center</b>
<b>2025: Research Conference Tavel Grant (\$2k), MIT Graduate Student Council</b>
<b>2025: NCWIT Aspirations in Computing Ambassador, National Center for Women &amp; Information Technology</b>
<b>2024: ACM FAccT DEI 2024 Scholarship (\$15k), Conference on Fairness, Accountability, and Transparency</b>
<b>2024: The Learning Engineering Tools Competition (\$300k), App Inventor Mobile Data Science Toolkit</b>
<b>2024: Research Conference Travel Grant (\$2k), Black in Robotics</b>
<b>2024: Research Conference Travel Grant (\$2k), MIT Graduate Student Council</b>
<b>2024: Research Conference Travel Grant (\$2k), National Center for Women &amp; Information Technology</b>
<b>2023: MIT Presidential Fellowship (\$49k)</b>
<b>2023: Emerson Collective (\$100k)</b>
<b>2023: NextProf Pathfinder Workshop Participant, University of Michigan Engineering</b>
<b>2022: MIT Prize for Open Data (\$5K), MIT School of Science and the MIT Libraries</b>
<b>2022: Best Paper Award, Research on Equity and Sustained Participation in Eng., Computing, and Tech.</b>
<b>2022: Amazon Robotics Day One Fellow (\$100k), Amazon Robotics</b>
<b>2021: GEM PhD Fellow (\$16k), National Consortium for Graduate Degrees for Minorities in Eng. and Science</b>

## Conference Papers

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In Review	Raechele Walker, Nashlie Sephus, Sandeep Avula, Matthew Monfort, Jamie Morgenstern, Max Ramsay, Xiaoxiao Liu, Mia Mayer. "My Work Is Mostly Technical": Tech Employees' Perspectives on Integrating Critical Reflexivity into Responsible AI Principles. <i>In review</i> , 2025.
EAAMO 2025	Raechele Walker, Brady Cruse, Aisha Cora, Kantwon Rogers, Cynthia Breazeal. Archaeology of Self: Reflexivity in Data Activism to Address Systemic Injustices. <i>ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization</i> .
RESPECT 2025	Raechele Walker, Brady Cruse, Aisha Cora, Cynthia Breazeal, Matthew Taylor. Redefining Data Science: Where Transformative Youth Organizing Meets Arts-Based Abolitionist Education. <i>ACM Conference for Research on Equitable and Sustained Participation in Engineering, Computing, and Technology</i> .  Best Research Paper Award
RESPECT 2024	Raechele Walker, Cynthia Breazeal, Matthew Taylor, Olivia Dias. Alleviating the Danger of a Single Story Through Liberatory Computing Education. <i>ACM Conference on Research in Equitable and Sustained Participation in Engineering, Computing, and Technology</i> .
BICE 2024	Raechele Walker, Sophia Brady, Olivia Dias, Adriana Castillo, Kaleb Asfaw, Elijah Johnson, Matt Taylor, Cynthia Breazeal. Unveiling Voices: African American Students' Data Activism Journey with Community Catalysts. <i>IEEE Black Issues in Computing Education Symposium</i> .
RESPECT 2022	Raechele Walker, Eman Sherif, Cynthia Breazeal. Liberatory Computing for African American Students. <i>ACM Conference on Research in Equitable and Sustained Participation in Engineering, Computing, and Technology</i> .  Best Position Paper Award
RO-MAN 2022	Anastasia K. Ostrowski, Raechele Walker, Madhurima Das, Maria Yang, Cynthia Breazeal, Hae Won Park, Aditi Verma. Ethics, Equity, & Justice in Human-Robot Interaction: A Review and Future Directions. <i>31st IEEE International Conference on Robot and Human Interactive Communication</i> .

## Short Papers and Posters

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These papers were peer-reviewed:

In Review	Raechele Walker, Brady Cruse, Maya Rajan, Aisha Cora, Raneem Alsoby, Isaac Kiniti, Kortni P. Foreman, Sophia Brady, Chase Vanias, Samira Shirazy, Saara Y. Uthmaan, (Data Activism Program Participants). DIAL-A-DATA ACTIVIST. <i>Arts Gallery &amp; Performance Track, International Society of the Learning Sciences (ISLS)</i> . <i>In review</i> , 2025.
AERA 2024	Raechele Walker, Cynthia Breazeal. Liberatory Computing Framework: Empowering High School Students to Mitigate Systemic Oppression Through Data Activism. <i>Perspectives on Promoting Algorithmic Justice in Artificial Intelligence and Machine Learning Education in K-12, American Educational Research Association</i> .
MIT SPR 2024	Raechele Walker, Daniella Dipaola. Dr. Casey Fiesler: Making Tech Ethics Go Viral. <i>MIT Science Policy Review</i> .
SIGCSE 2023	Raechele Walker. Systemic Justice Capstone Project: Enabling Students to Mitigate Systemic Oppression Through Data Activism. <i>Technical Symposium on Computer Science Education (ACM SIGCSE)</i> .
SIGCSE 2023	Olivia Dias, Raechele Walker, Cynthia Breazeal. Teaching an Intersectional Data Analysis on Affirmative Action. <i>Technical Symposium on Computer Science Education (ACM SIGCSE)</i> .

SIGCSE 2023	Zeynep Yalcin, Raechel Walker, Cynthia Breazeal. <b>Intersectional Data Analysis of Gun Violence in Boston: Teaching Data Activism to Mitigate Systemic Oppression.</b> <i>Technical Symposium on Computer Science Education (ACM SIGCSE)</i> .
EAAI 2023	Raechel Walker, Zeynep Yalcin, Olivia Dias, Matthew Taylor, Cynthia Breazeal. <b>Introduction to the COMPAS Recidivism Algorithm.</b> <i>Model AI Assignments, Proceedings of the Thirteenth Symposium on Educational Advances in Artificial Intelligence (EAAI)</i> . (Citation: EAAI paper & Curriculum: COMPAS Model AI Assignment)  <b>Tied for Best Model AI Assignment</b>
NeurIPS 2020	Raechel Walker and Rose Yu. <b>Multiresolution Tensor Learning for Efficient and Interpretable Spatiotemporal Analysis.</b> <i>AI for Earth Sciences Workshop at NeurIPS</i> .

## Selected Press

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MIT Media Lab	2025	<i>"The Data Activism Program: Empowering High School Students to Challenge Systemic Racism"</i>
Education Development Center	2025	<i>"Our Data Paths: Three Stories"</i>
MIT Spectrum	2024	<i>"Presidential Fellowship Moves Innovation and Research Forward"</i>
Alleyn's School	2024	<i>"Empowering Ethical Innovators"</i>
STEAMunity project	2024	<i>"STEAMunity interview with Raechel Walker on Data Activism"</i>
The Concord Bridge	2023	<i>"CCHS Students Learn Data Activism at MIT"</i>
CSK8 Podcast	2022	<i>"Liberatory Computing Education for African American Students"</i> — Podcast with Jared O'Leary
MIT News	2022	<i>"Empowering Cambridge Youth Through Data Activism"</i>

## Exhibitions

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### Dial-A-Data Activist at Harvard College, 2025

Medium: Drawing, Film, Sound, Postcards, Interactive Installation

Participants: Data Activism Program — Brady Cruse (Engineering), Maya Rajan (Music; SoundCloud: Maya the DJ, Spotify: Maya and the Beat), Aisha Cora (Sound), Raneem Alsoby (Design), and Raechel Walker (Curator)

- The installation features retro rotary phones that play youth participants' recorded reflections on AI bias, race, and justice, accompanied by layered background music that amplifies the emotion and rhythm of their voices. By blending sound, storytelling, and visual design, the exhibit transforms elements of the Data Activism Program into an immersive art experience that highlights the creativity and critical insight of its participants.

## Funded Grants

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- 1. Google AI Career Pathways at Community Colleges** 2025  
“Lead Curriculum Developer for the Data Science Curriculum”  
Lead proposal writer: Cynthia Breazeal  
PI: Cynthia Breazeal  
Award Amount: \$1,000,000
- 2. MIT IDEAS Social Innovation Challenge** 2025  
“Liberatory Computing Collective”  
Lead proposal writer: Raechel Walker  
PI: Raechel Walker  
Award Amount: \$10,000
- 3. The Learning Engineering Tools Competition** 2024  
“The Mobile Data Science Toolkit”  
Lead proposal writer: Robert Parks  
PIs: Robert Parks, Prerna Ravi, David Kim, Raechel Walker  
Award Amount: \$300,000
- 4. ACM FAccT 2024 Diversity, Equity, and Inclusion (DEI) Scholarship** 2024  
“Liberatory Computing: Empowering Minoritized Communities through Data Activism”  
Lead proposal writer: Raechel Walker  
PIs: Cynthia Breazeal & Raechel Walker  
Award Amount: \$15,000
- 5. MIT Sea Grant Award** 2024  
“2024 Data Activism Program with MIT FutureMakers”  
Lead proposal writer: Raechel Walker  
PIs: Cynthia Breazeal & Raechel Walker  
Award Amount: \$5,500
- 6. Emerson Collective Grant** 2023  
“2023 Data Activism Program”  
Lead proposal writer: Cynthia Breazeal & Raechel Walker  
PIs: Cynthia Breazeal & Raechel Walker  
Award Amount: \$100,000
- 7. Jaylen Brown’s 7uice Foundation Grant** 2023  
“2023 Data Activism Program”  
Lead proposal writer: Cynthia Breazeal & Raechel Walker  
PIs: Cynthia Breazeal & Raechel Walker  
Award Amount: \$3,000
- 8. MIT Prize for Open Data** 2022  
“2022 Data Activism Program”  
Lead proposal writer: Raechel Walker  
PIs: Cynthia Breazeal & Raechel Walker  
Award Amount: \$2,500

## Invited Presentations

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- MIT Priscilla King Gray Public Service Center, Invited Talk Oct 2025
- Harvard College, Panelist Oct 2025

Intercollegiate Summit of Undergraduate Generational African-Americans	
<b>Amazon Research, Invited Talk</b>	July 2025
"Archaeology of Self™: Reflexivity in Data Activism to Address Systemic Injustices"	
<b>MIT Horizon, Invited Talk</b>	June 2025
"Empowering Future Professionals Through Data – Rethinking Computing Education for Real-World Impact"	
<b>MIT Graduate Pathways with the McNair Scholars, Panelist</b>	May 2025
<b>MIT Mondays, Panelist</b>	April 2025
"A Journey to Graduate School"	
<b>Coolidge Corner Theatre Foundation, Invited Talk</b>	Feb. 2025
"Youth Data Activism for High School Students in Boston"	
<b>New York University, Guest Lecture</b>	Dec. 2024
"Diversity and Technology"	
<b>Young Visionary Leaders Conference at Northeastern University, Invited Talk</b>	Nov. 2024
"Youth Data Activism for Young Men of Color"	
<b>MIT Introduction to Technology, Engineering, and Science (MITES), Panelist</b>	Oct. 2024
"Inspiring Journeys in STEM"	
<b>MIT Graduate Pathways with McNair Scholars, Panelist</b>	Oct. 2024
<b>MIT AI + Education Summit, Invited Speaker</b>	Aug. 2024
"The Importance of Data Activism in AI Education"	
<b>Google and MIT, Invited Speaker</b>	Aug. 2024
"Liberatory Computing for African American Students"	
<b>MIT FutureMakers, Industry Expert Speaker</b>	July 2024
"Data in Action: Inspiring Youth to Become Data Activists"	
<b>MITES Saturdays Symposium, Keynote Speaker</b>	May 2024
"Faith, Research, and Justice: My Journey Toward Liberatory Computing"	
<b>American Educational Research Association, Poster Presenter</b>	Apr. 2024
"Perspectives on Promoting Algorithmic Justice in Artificial Intelligence and Machine Learning Education in K-12"	
<b>Innovators For A Purpose, Panelist</b>	Mar. 2024
"Unlocking AI's Potential for All"	
<b>MIT FutureMakers, Industry Expert Speaker</b>	July 2023
"Data in Action: Inspiring Youth to Become Data Activists"	
<b>Amazon Robotics Day One Fellowship, Summit Panelist</b>	July 2023
"Pathways to the PhD: My Journey to MIT"	
<b>MIT GradCatalyst, Panelist</b>	Nov. 2023
<b>Early Research Scholars Program, National Conference Keynote Speaker</b>	Oct. 2023
<b>Computer Science Teachers Association, Summit Speaker</b>	Oct. 2023
"Impacts of Computing"	
<b>MIT GradCatalyst, Panelist</b>	Oct. 2023
<b>SIGCSE Best RESPECT Papers Session, Invited Talk</b>	Feb. 2023
"Liberatory Computing for African American Students"	
<b>Jaylen Brown's 7uice Foundation, Invited Talk</b>	Feb. 2023

"Systemic Justice Capstone Project: Enabling Students to Mitigate Systemic Oppression Through Data Activism	
<b>Emerson Collective, Invited Talk</b>	Feb. 2023
"Systemic Justice Capstone Project: Enabling Students to Mitigate Systemic Oppression Through Data Activism"	
<b>Georgia Tech Graduate School Showcase, Panelist</b>	Oct. 2022
<b>MIT EverydayAI Make-a-thon, Invited Talk</b>	March 2022
"Liberatory Computing for African American Students"	
<b>MIT GradCatalyst, Panelist</b>	Oct. 2021

## **Research Experience**

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<b>Massachusetts Institute of Technology</b>	Sept. 2021 – Present
GRADUATE STUDENT RESEARCHER	<i>Cambridge, MA</i>
○ Created and taught over 120 hours of data activism curricula(linked here), combining Critical Participatory Action Research with AI, for 70 high school and college students over three years.	
○ Established and maintained seven partnerships with social justice organizations, including the Algorithmic Justice League, focusing on issues such as algorithmic bias, mass incarceration, environmental injustice, while ensuring that research amplified the voices of minoritized communities.	
○ Coined the term “liberatory computing” and won 2 Best Paper Awards at RESPECT.	
<b>Harvard University</b>	May 2025 – Present
GRADUATE STUDENT RESEARCHER	<i>Cambridge, MA</i>
○ Conducted an extensive literature review with Dr. Aaliyah El-Amin examining racial disparities in academic and research career pathways, focusing on (a) representation of people of color (POC) in research fields, (b) perceptions of research as a discipline or career among POC, (c) the impact of exposure to critical qualitative methodologies on POC’s experiences, and (d) how traditional epistemologies in research may marginalize or shape POC’s engagement with scholarly inquiry.	
<b>Amazon Web Services (Themis Responsible AI Team)</b>	June 2025 – Sept 2025
RESEARCH SCIENTIST INTERN	<i>Atlanta, GA</i>
○ Pioneering the integration of a new Responsible AI (RAI) Principle, Reflexivity, or the critical self-examination of bias, into Amazon’s RAI Best Practices, including the development of original training materials for company-wide use across AWS.	
○ Investigating how to embed reflexivity into RAI workflows by collaborating with Amazon engineers to assess whether structured prompts that encourage reflexive thinking enhance fairness-related risk evaluations in high-stakes applications, such as facial recognition.	
<b>Amazon Robotics</b>	June 2022 – Aug. 2022
FELLOW INTERN	<i>Cambridge, MA</i>
○ Developed the first Data Activism Program, engaging 12 students who used data science to address systemic injustice. The students showcased their data activism projects to the Mayor of Cambridge.	
<b>National Renewable Energy Laboratory</b>	June 2021 – Aug. 2021
ARTIFICIAL INTELLIGENCE INTERN	<i>Virtual</i>
○ Pioneered the identification of AI best practices to address bias in AI within the Building Technology Office.	

## Teaching & Mentoring Experience

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**Course Creator & Teacher, Data in Action**  
MIT Media Lab

Cambridge, MA  
Spring 2026

- Designed and will teach a Google PATH–funded Data Science and Algorithmic Auditing course at MIT that integrates technical data analysis with ethical reflection on AI systems. Developed the lesson “LLM Auditing,” which introduces how large language models shape everyday experiences. Students learn manual text coding; Python and Pandas for sentiment analysis; small language model based AI-assisted coding; and how to critically assess the bias of algorithmic decision-making.

**Course Creator & Teacher, Data Activism Program**  
MIT Media Lab

Cambridge, MA and Virtual  
Summer 2022, Spring 2023, Summer 2024

- Designed and taught a six-week intensive course on data activism and large-scale data analysis to mitigate systemic injustice (Python, data visualization, AI fairness metrics, Critical Participatory Action Research) to 70 college and high school students. Syllabus linked here.
- Supervised undergraduate and graduate students on real-world data science projects.
- Started and coordinated collaborations with 7 organizations, including the Vera Institute of Justice, Algorithmic Justice League, MIT Sea Grant, AfroPink, Food Link, Habitat for Humanity, Charles River Watershed Association.

## Research Mentor

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*Lead research advisor for over 16 undergraduate researchers*

Summer 2022 – present

(★ = co-authored a publication, ⚡ = pursuing a Master's)

- Brady Cruse★ (Undergraduate, MIT; Summer 2024 – present)
- Aisha Cora★(Undergraduate, University of Washington; 2024–present)
- Sophia Brady★⚡(Undergraduate, Boston College; Summer 2022– Winter 2024)
- Elijah Johnson★ (Undergraduate, MIT; Spring 2023– Spring 2024)
- Samira Shirazy (Undergraduate, University of Washington; Summer 2024)
- Saara Uthmaan (Undergraduate, University of Washington; Summer 2024)
- Eghosa Ohenhen (Undergraduate, MIT; Summer 2024)
- Chase Vanias (Undergraduate, MIT; Summer 2024)
- Isaac Kinti (Undergraduate, MIT; Summer 2024)
- Kortni Foreman (Undergraduate, MIT; Summer 2024)
- Olivia Dias ★⚡(Undergraduate, MIT; Summer 2022–Spring 2024 )
- Zeynep Yalçın★ (Undergraduate, Wellesley College; Summer 2022– Spring 2023)
- Kaleb Asfaw ★ (Undergraduate, MIT; Spring 2023)
- Lian Liu★ (Undergraduate, Wellesley College; Spring 2023)
- Sneha Sriram★ (Undergraduate, Wellesley College; Spring 2023)
- Lina Henriquez (Undergraduate, Florida International University; Summer 2022)

## Service

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**Leadership Positions** .....

- Graduate Resident Assistant Aug. 2023 – Present  
Facilitate community building for undergraduate students through weekly events, conflict mediation, and resource provision at MIT.
- MIT Graduate Diversity Ambassador Oct. 2021 – Present  
Address questions at diversity recruitment conferences and volunteer for MIT GradCatalyst sessions, leading workshops to assist undergraduates in understanding the graduate application process.
- Chair, MIT AI & Education Summit Spring and Summer 2025

## **Volunteering .....**

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| ○ Decolonizing STEM Working Group, EAAMO  | Present |
| ○ Submission Reviewer, CHI (ACM Conference on Human Factors in Computing Systems) | Present |
| ○ Submission Reviewer, MIT AI & Education Summit                                  | 2025    |
| ○ Student Volunteer, AI Career Pathways at Community Colleges Summit              | 2025    |

## **Skills & Research Methods**

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### **Technical Skills.....**

- Python (core language for AI/ML work)
- pandas, NumPy, SciPy (data manipulation and analysis)
- scikit-learn (classical ML algorithms)
- PyTorch / TensorFlow / Keras (deep learning frameworks)
- Jupyter Notebook (prototyping and reproducible workflows)
- Data analysis & wrangling
- Data visualization
- SQL (databases & querying)
- Human-centered AI evaluation

### **Research Methods.....**

- Mixed methods
- Design-based research
- Workshops
- Interviewing protocols
- Surveys
- Prototyping
- Co-design
- Thematic analysis
- Experimental design
- Building sustainable research partnerships
- Conducting research with minoritized communities