

# Mia Hines

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## Education

Bachelor of Arts degree with a major in Computer Science and a minor in Statistics.

Grinnell College in Grinnell, IA. May 2024.

## Supplementary Educational & Certificate Programs

- Middlebury Institute of International Studies: Graduate-Level Semester Program in Environmental Studies • January-May 2023, GPA: 4.0/4.0.
- MIT Institute of Data, Systems, and Society (IDSS): Data Science & Machine Learning • June - August 2023
- Techquitable: Software Developer Training Program • January-May 2022
- Career-Prep & Networking Conferences: GEM Associate Fellowship Conference 2024, Grace Hopper Celebration 2024, Grace Hopper Celebration 2023, Iowa Technology Summit 2022

## Research Experience

**Ph.D. Student • Washington University in St. Louis • August 2024 – Present • St. Louis, MO**

*Faculty Mentor: Alvitta Ottley*

- Creating a gamified version of a visualization literacy assessment to increase diverse audiences' participation.
- Writing a paper on the gaps between practitioner design guidelines and empirical evidence.
- Analyzing how visualizations are used in the news media.

**Media Lab Research Assistant • MIT • June 2023 – Present • Cambridge, MA**

*Research Supervisor and Faculty Mentor: Ufuoma Ovienmhada and Danielle Wood*

- Performing a time-series analysis (2000-2022) on temperature rise occurring at state and federal prisons in the United States.
- Configuring and analyzing multiple statistics relating to extreme heat for each summer for each prison facility. Cleaning and wrangling the following datasets: satellite images (Landsat) and daily air temperature (Daymet).
- Developing maps and statistical visualizations for further analysis of thermal disparities.

**Graduate Assistant • Middlebury Institute of International Studies (MIIS) • February – May 2023 • Monterey, CA**

*Faculty Mentor: Carolyn Meyer*

- Performed qualitative research on the influence of effective social justice programs and developed a curriculum model for students in visiting programs at the institution.
- Conducted a comprehensive survey of educational programs and service learning and facilitated the administration of focus groups amongst students, faculty, and executive staff.
- Compiled a final report with recommendations and instructions for embedding the developed social justice curriculum.

**HCI & Visual Computing Research Assistant • Brown University • June – August 2022 • Providence, RI**

*Faculty Mentors: Jeff Huang and James Tompkin*

- Brainstormed and proposed an educational technology project focused on improving an individual's handwriting. Product intended to be used to learn new languages or in elementary school programs.
- Produced an interactive web application called TeachHandi that accepted the user's writing of a word and compared it to the trace generated by a pre-existing ML model.

## Publications

- Williams, L. \*, **Hines, M. \***, Pandey, S., & Ottley, A. (2025). Juxtaposing Worlds: A Comparative Study of Empirical Visualization Literature and Practitioner-Curated Guideline [In Preparation]
- Pandey, S., Williams, L., **Hines, M.**, & Ottley, A. (2025). Style Matters: A Cross-Organizational Study of Visualization Guidelines. [Submitted to IEEE Vis 2025]
- Ovienmhada, U., **Hines, M.**, Krisch, M., Diongue, A. T., Minchew, B., & Wood, D.R. (2024). Spatiotemporal facility-level patterns of summer heat exposure, vulnerability, and risk in United States prison landscapes. *GeoHealth*

## Presentations

- Ufuoma Ovienmhada, **Mia Hines**, Andrew West, Jordan Mazurek, Richard Thomas, Brent M Minchew and Danielle Wood. *Spatial Pattern of Land Surface Temperatures and PM 2.5 in U.S. Prison landscapes using satellite-derived data*, American Geophysical Union (AGU) 2023. (oral presentation)
- **Mia Hines**, Ufuoma Ovienmhada, and Danielle Wood. *Burning Behind Bars: Using Geospatial Data to Measure Extreme Temperatures in Prisons*, Grinnell College: Computer Science Dept 2023. (poster presentation)
- **Mia Hines**, Ufuoma Ovienmhada, and Danielle Wood. *Burning Behind Bars: Using Geospatial Data to Measure Extreme Temperatures in Prisons*, MIT Extension Research Program Symposium 2023. (poster presentation)
- **Mia Hines**, Ufuoma Ovienmhada, and Danielle Wood. *Satellite Remote Sensing and Environmental Justice: Facilitating change by estimating heat disparities of incarceration facilities in Texas and the United States*, MIT Media Lab MSRP Summer Intern Presentations. (oral presentation)
- **Mia Hines**, Ufuoma Ovienmhada, and Danielle Wood. *Satellite Remote Sensing and Environmental Justice: Facilitating change by estimating heat disparities of incarceration facilities in Texas and the United States*, MIT Summer Research Program Symposium 2023. (poster presentation)
- **Mia Hines**, Jeff Huang, and James Tompkin. *TeachHandi: AI System and Interactive Program to Teach Handwriting*, Brown University Undergraduate Research Symposium 2022. (poster presentation)
- **Mia Hines**, Jeff Huang, and James Tompkin. *TeachHandi: AI System and Interactive Program to Teach Handwriting*, Leadership Alliance Undergraduate Research Symposium 2022. (poster presentation)

## Professional Experience

### **Administrative Assistant & Full-Stack Engineer • Sorkins • August 2017 – May 2022 • St. Louis, MO**

- Increased user accessibility and flexibility with information, cleaned up data, and instrumentally decreased the loading time of key operations by 15%.
- Developed new user search tools including Family Business Search, Archive Search, Branch Locations Search, and Business Social Media Search. Programmed new download options for the information.

### **Administrative Intern • Niños De Mexico • August 2018 – June 2019 • St. Louis, MO**

- Developed comprehensive webpages and updated tools to make digital operations for both staff and nonprofit donors easier and more accessible.

## Projects

### **Data Scientist • Course Project for Environmental History • February 2023 – May 2023 • Monterey, CA**

- Arranged, cleaned, and managed a large dataset of transcribed daily logbook entries from 1835-1839. Served as data liaison to transcribers in the course.
- Visualized route and sperm whale activity on a world map using ArcGIS. Results were published in a cover-story article of the Earth Island Journal.

### **Virtual Reality (VR) Project Developer • Independent Research • September 2018 - June 2019 • St. Louis, MO**

- Designed and programmed Virtual Reality simulations to improve users' mental health. Simulations incorporated mindfulness practices, serene environments, and guided meditations.
- Conducted a mixed-method user study to estimate the simulations' efficiency. Participants' heart rate decreased by 10% on average and 93% of them recommended the simulations.

### **Teaching and Mentoring Experience**

Instructor Assistant, Kode With Klossy (KWK) CODE-A-BRATION Weekend • March 2025  
Founding Member & Lead Instructor, Girls Who Code (GWC) Chapter • October 2022 – May 2024  
Upperclassmen Mentor, Computer Science Department • January – May 2022, October 2023 – May 2024  
Executive Member & Co-President, Black Students in STEM (BSS) • September 2020 – December 2022  
Teaching Assistant (TA) for Introductory Statistics, Statistics Department • August – December 2022  
Student Advisory Member, Science Division Diversity & Inclusion Committee • January – May 2022

### **Fellowships, Honors, & Awards**

- Clare Booth Luce Graduate Fellowship
- AI-ACCESS NRT Fellowship
- GEM Associate Fellowship
- 2024 Henry M. and Theresa P. Walker Endowed Prize for Excellence in Computer Science
- Marie Nesbitt Promise Prize 2022 (Excellence in Leadership)
- Dean's List 2020-2021
- National Center of Women in Information & Technology (NCWIT) Aspirations: 2020 Regional Winner
- Intel Excellence in Computer Science Award in 2019

### **Featured Articles and Interviews**

- KSDK 5, [\*Supermodel and St. Louis native Karlie Kloss elevates coding opportunities focused on AI and machine learning in her hometown\*](#), March 2025
- Grinnell College, [\*Computer Science Department Celebrates Outstanding Graduates\*](#), May 2024
- Grinnell College, Grinnell's Girls Who Code group strives to close gender gap in tech jobs, March 2024
- MIT IDSS, *Inclusive research for social change: The MIT Student Research Program pairs underrepresented students with opportunities to examine inequity. . .*, January, 2024
- Grinnell College, [\*Grinnell Students Attend Grace Hopper Celebration\*](#), October 2023
- MIT OGE Department, *MIT Summer Research Program (MSRP): Student Reflection*, August 2023
- KSQD Community Radio, [\*Rich King, Mallory Hoffbeck, and Mia Hines Share Their Adventure Into the Past – Guided by Captain Joy's Last Whaling Log\*](#), August 2023
- Earth Island Journal, [\*Captain Joy's Last Voyage: What a whaling captain's logbook can teach us about sperm whales and our oceans\*](#), Summer 2023
- MIIS, [\*Sunny Beaches, Sea Otters, and Other Shenanigans\*](#), February 2023

### **Specialized Technical Skills (Programming Languages & Software)**

- Python, C, JavaScript, HTML/CSS, Bootstrap, NCurses, Java, SQL, UNIX, CUDA, R, A-Frame, Assembly, Scheme
- RStudio, Google Earth Engine, ArcGIS, Microsoft Excel, Stata