KATELYN MORRISON

kcmorris@cs.cmu.edu ◇ cs.cmu.edu/~kcmorris ◇ GitHub ◇ Google Scholar

RESEARCH INTERESTS

I am interested in improving **human-AI collaboration** by designing **human-centered explainable AI (HCXAI)** or **explainable AI** and evaluating which **current XAI techniques calibrate** decision-makers **reliance on AI**. I am comfortable designing and running **user studies/surveys** on **crowdsourcing platforms**; conducting **qualitative** and **quantitative** analyses (i.e., thematic analysis, statistical tests); **analyzing large datasets**; **Python**; **JavaScript**; **HTML**; and **R**.

EDUCATION

Carnegie Mellon University *August 2021 - Present*
Ph.D. in Human-Computer Interaction
Advisor: Adam Perer

University of Pittsburgh *August 2018 - May 2021*
B.S. in Computer Science & Certificate in Sustainability
GPA: 3.77/4.00 - Summa Cum Laude

PUBLICATIONS

Katelyn Morrison, Donghoon Shin, Kenneth Holstein, and Adam Perer. "Evaluating the Impact of Human Explanation Strategies on Human-AI Visual Decision-Making." *Under review* at CSCW 2022.

Katelyn Morrison, Benjamin Gilby, Colton Lipchak, Adam Mattioli, and Adriana Kovashka. "Exploring Corruption Robustness: Inductive Biases in Vision Transformers and MLP-Mixers." In Workshop on Uncertainty & Robustness in Deep Learning, ICML 2021.

Katelyn Morrison. "Reducing Discrimination in Learning Algorithms for Social Good in Sociotechnical Systems." In Workshop on AI for Social Good, IJCAI-PRICAI 2020.

Katelyn Morrison, Daniel Yates, Maya Roman, and William W. Clark. "Using Object Tracking Techniques to Non-Invasively Measure Thoracic Rotation Range of Motion." In Adjunct Proceedings of the ACM International Conference on Multimodal Interaction (ICMI) 2020, Utrecht, the Netherlands.

RESEARCH & WORK EXPERIENCE

Research Assistant August 2021 - Present
Data Interaction Group (DIG) Lab, HCII *Carnegie Mellon University*

- Idenfied common explanation strategies employed using thematic analysis. Developed research questions and designed user study to evaluate the impact that different explanation techniques have on task accuracy and humans' reliance on AI.

Undergraduate Research Intern May 2021 - August 2021
Computational Social Science Lab, Microsoft Research *New York City - Remote*

- Conducted surveys on MTurk to understand how people attribute trust & quality to opinion vs non-opinion news articles. Created metrics to represent trust and quality of articles to analyze responses.

Chancellor's Undergraduate Research Fellow January 2021 - May 2021
Pitt Honors College *University of Pittsburgh*

- Conducted exploratory data analysis, interviewed the bike sharing program director, and evaluated how social, infrastructural, and spatial features impact the demand prediction of bikes at a location.

Undergraduate Researcher August 2020 - May 2021
Smart Sensing for Humans (SmaSH) Lab, HCII *Carnegie Mellon University*

- Created an Android application that collects and labels IMU sensor and video data when it detects that the user is in a vehicle. Collects ground truth label for the video from the user.

Data Science Intern June 2020 - August 2020
IQT Labs @ In-Q-Tel *Palo Alto - Remote*

- Enabled "information epidemiology" by making an interactive Plotly Dash App to explore the life cycle of a claim or narrative about COVID-19 on Twitter using a spatial-temporal visualization.

Undergraduate Researcher August 2019 - October 2020
Pitt XProjects, Swanson School of Engineering *University of Pittsburgh*

- Worked on an interdisciplinary team to design an open source system that non-invasively calculates thoracic rotation range of motion using computer vision techniques.

Undergraduate Researcher January 2020 - May 2020
Center for Latin American Studies *University of Pittsburgh*

- Created a research project proposal and IRB protocol to understand how adults in Manizales, Colombia assess and evaluate the state and quality of the current bike sharing system, Manizales En Bici.

TEACHING

Undergraduate Teaching Assistant September 2020 - May 2021
School for Computing and Information *University of Pittsburgh*

- Hold labs to introduce introductory programming, data manipulation, and data visualization concepts in Python using libraries such as Pandas, matplotlib, and GeoPandas.
- Hold office hours to provide more examples and guide students towards good debugging practices.

Workshop Lead & Student Technician August 2018 - May 2020
University Center for Teaching and Learning - Open Lab *University of Pittsburgh*

- Initiated the makerspace workshop series and lead the workshop for vinyl cutting.
- Taught students, faculty, and staff how to use 3D resin and filament printers, laser cutters, virtual reality systems, and other equipment.
- Helped create new student worker policy handbook as well as makerspace user handbook.

LEADERSHIP

Graduate Student Association Representative October 2021 - Present
Human Computer Interaction Institute *Carnegie Mellon University*

- Responsible for HCII department activity fund to use for gatherings and events.
- In charge of raising concerns and requests from the HCII PhD student body.

Doctoral Consortium Co-Organizer November 2019 - Present
Computational Sustainability Doctoral Consortium *CompSustNet*

- Contributed to grant writing to submit an NSF grant for funding future events.
- Reviewed submissions, created the talk schedule; moderated talks, tutorials, and Q&A sessions.

Women in Computer Science Club Vice President April 2020 - May 2021
School of Computing and Information *University of Pittsburgh*

- Created and led a workshop on gender diversity in open source development on GitHub.
- Assisted the club in recruiting members, promoting diversity and inclusion, and mentoring members.

Pitt Computer Science Club Mentor August 2020 - Present
School of Computing and Information *University of Pittsburgh*

- Provide guidance and feedback to my mentees regarding undergraduate research opportunities and resumes.

Spanish Club Events Coordinator August 2019 - May 2020
Spanish Department *University of Pittsburgh*

- Planned a virtual reality tour of Latin America for the Pitt Latin American & Caribbean Festival.

Sustainability Project Liason October 2018 - May 2019
Green Fund Advisory Board, Student Office of Sustainability *University of Pittsburgh*

- Evaluated project proposals for funding based on potential impact to campus sustainability.
- Elected student government representative to lead sustainability initiatives on campus.

HONORS & ACHIEVEMENTS

School of Computing & Information Commencement Speaker	May 2021
CS Dept. Most Outstanding Undergraduate Student Award	May 2021
Emma W. Locke Award Nominee	April 2021
15th annual ACC Meeting of the Minds Presenter	April 2021
Chancellor's Undergraduate Research Fellowship	January - May 2021
School of Computing & Information Dean's List	Fall 2020, Spring 2021
Ivan Santa-Cruz Memorial Study Abroad Scholarship	February 2020
Pitt Study Abroad Office Scholarship	February 2020
Adobe Research Women in Technology Scholarship Finalist	November 2019
Stanford University Innovation Fellowship	October 2019 - May 2020
Dare Mighty Things Hackathon Finalist	October 2019
United Nations Academic Impact Group Millennium Fellowship	August 2019 - Dec. 2019

SKILLS

Experienced: Python, HTML, SQL, JavaScript, Java **Intermediate:** R, LaTeX, C, ArcGIS **Novice**: PHP, Kotlin **Frameworks, APIs, Misc.:** Svelte, Vega-Lite, D3, PyTorch, Plotly, Plotly Dash, NumPy, Pandas, Firebase, MTurk, GeoPandas, MapBox, Folium, OverPass API, OpenCV, Bootstrap, PostgreSQL, Android Studio, Jupyter Notebooks, Observable

POSTERS & PRESENTATIONS

"Exploring Corruption Robustness: Inductive Biases in Vision Transformers and MLP-Mixers." *ICML 2021 Workshop on Uncertainty & Robustness in Deep Learning.*

"Spatially Sensitive Learning Algorithm to Mitigate Discrimination in Resource Allocation." *15th annual ACC Meeting of the Minds 2021.*

"Reducing Discrimination in Learning Algorithms for Social Good in Sociotechnical Systems." *AI for Social Good Workshop at IJCAI 2021.*

"DriveSense: Android Application to Detect and Label Phone Usage in Vehicles Using the Front Camera." *University of Pittsburgh Computer Science Capstone Presentation 2020.*

"Evaluating the Fairness of Bike Sharing Programs Using Geospatial Analysis." *Computational Sustainability Doctoral Consortium, 2020.*

"Using Object Tracking Techniques to Non-Invasively Measure Thoracic Rotation Range of Motion." *Face and Gesture Analysis for Health Informatics Workshop, ACM ICMI 2020.*

"Civic Hacking & Urban Informatics: Mapping Data with GeoPandas" *PyOhio 2020.*

"Dual Live Angle Calculation to Determine Flexibility of Torso Using Computer Vision." *Science2019: Pitt's Annual Celebration of Science & Technology.*