

# KATELYN MORRISON

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## EDUCATION

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**Carnegie Mellon University** *Starting August 2021*  
PhD in Human-Computer Interaction

**University of Pittsburgh** *August 2018 - May 2021*  
B.S. in Computer Science & Certificate in Sustainability  
*GPA: 3.73/4.00*

**Moravian College** *August 2017 - May 2018*  
General Education Studies  
*GPA: 3.91/4.00*

## PUBLICATIONS

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**Katelyn Morrison.** “[Reducing Discrimination in Learning Algorithms for Social Good in Socio-technical Systems.](#)” In IJCAI 2021 Workshop on AI for Social Good, 2021.

**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.

## WORKING PAPERS

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**Katelyn Morrison,** Anthony Sicilia, Ayan Mukhopadhyay, Hoda Heidari, and Malihe Alikhani. “Spatially Sensitive Learning Algorithm to Mitigate Discrimination in Resource Allocation.”

**Katelyn Morrison,** Ben Rocklin, and Nina Lopatina. “COVID-19 Claim-Level System: Claim-Matching to Reduce Redundant Fact-Checking and Claim-Mapping to Visualize COVID-19 Discourse.”

**Katelyn Morrison,** Benjamin Gilby, Colton Lipchak, and Adam Mattioli. “Exploring Corruption Robustness: Inductive Biases in Convolutional Neural Networks and Transformers.”

## RESEARCH & WORK EXPERIENCE

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**Undergraduate Research Intern** *May 2021 - August 2021*  
*Microsoft Research* *New York City - Remote*

- Using computational social science and applied research methods to further understand content production and consumption, news absorption, or the life cycle of fake news on social media platforms.

**Chancellor’s Undergraduate Research Fellow** *January 2020 - May 2021*  
*Pitt Honors College* *University of Pittsburgh*

- Using defined notions of fairness, I am developing a framework to fairly redistribute and allocate resources across census tracts; case study involving Healthy Ride Bike Sharing program in Pittsburgh, PA and Citi Bikes in New York City, NY.

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

- Created an Android application that collects and labels sensor and video data when it detects that the user is in a vehicle.
- Submitting an IRB protocol to passively collect user data through the app for further analyses.
- Developing features to detect if the user is a driver or passenger using a random forest binary classifier.

**Data Science Intern***IQT Labs @ In-Q-Tel*

June 2020 - August 2020

*Palo Alto - Remote*

- Enabled “information epidemiology” by making an open source [Plotly Dash App](#) to explore the life cycle of a claim or narrative about COVID-19 on Twitter in a spatial-temporal visualization.

**Undergraduate Researcher***Pitt XProjects, Swanson School of Engineering*

August 2019 - October 2020

*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***Center for Latin American Studies*

January 2020 - May 2020

*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**

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**Undergraduate Teaching Assistant***School for Computing and Information*

September 2020 - Present

*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***University Center for Teaching and Learning - Open Lab*

August 2018 - May 2020

*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.

**Tech Camp Instructor***iD Tech Camps*

June 2018 - August 2018

*Villanova University*

- Taught programming concepts in Java, C++, HTML and JavaScript (using MicroBits), and Scratch.
- Created lesson plans, tracked learning progress of students and evaluated skills learned through a final project presentation.

**LEADERSHIP**

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**Doctoral Consortium Co-Organizer***Computational Sustainability Doctoral Consortium*

November 2019 - Present

*CompSustNet*

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

**Women in Computer Science Club Vice President***School of Computing and Information*

April 2020 - Present

*University of Pittsburgh*

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

**Pitt Computer Science Club Mentor***School of Computing and Information*

August 2020 - Present

*University of Pittsburgh*

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

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| <b>Spanish Club Events Coordinator</b><br><i>Spanish Department</i>  | August 2019 - May 2020<br><i>University of Pittsburgh</i>  |
| • Planned a virtual reality tour of Latin America for the Pitt Latin American & Caribbean Festival.        |  |
| <b>Sustainability Project Liason</b><br><i>Green Fund Advisory Board, Student Office of Sustainability</i> | October 2018 - May 2019<br><i>University of Pittsburgh</i> |
| • Evaluated project proposals for funding based on potential impact to campus sustainability.              |  |
| <b>Student Government Representative</b><br><i>United Student Government</i>                               | November 2017 - May 2018<br><i>Moravian College</i>        |
| • Elected student government representative to lead sustainability initiatives on campus.                  |  |

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## HONORS & ACHIEVEMENTS

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| <b>15th annual ACC Meeting of the Minds Presenter</b>             | April 2020              |
| <b>Chancellor Undergraduate Research Fellowship</b>               | January - May 2020      |
| <b>School of Computing &amp; Information Dean's List</b>          | Fall 2020               |
| <b>Ivan Santa-Cruz Memorial Study Abroad Scholarship</b>          | February 2020           |
| <b>Pitt Study Abroad Office Scholarship</b>                       | February 2020           |
| <b>Adobe Research Women in Technology Scholarship Finalist</b>    | November 2019           |
| <b>Stanford University Innovation Fellowship</b>                  | October 2019 - May 2020 |
| <b>Dare Mighty Things Hackathon Finalist</b>                      | October 2019            |
| <b>United Nations Academic Impact Group Millennium Fellowship</b> | August 2019 - Dec. 2019 |
| <b>Emerging Leaders Scholarship Program (Moravian College)</b>    | August 2017 - May 2018  |

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## MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

ACM student member, ACM SIGCHI student member

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## SKILLS

**Experienced:** Python, Java, HTML **Intermediate:** R,  $\LaTeX$ , JavaScript, C, ArcGIS **Novice:** PHP, SQL, Kotlin **Frameworks, APIs, Misc.:** PyTorch, Plotly, Dash, NumPy, Pandas, GeoPandas, Map-Box, Folium, OverPass API, OpenCV, Bootstrap, Google Maps API, Google Firebase, Android Studio

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## POSTERS & PRESENTATIONS

- “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.*
- “Impact of Signage on First Year Residence Hall Recycling.” *13th Annual Moravian College Student Scholarship & Creative Endeavors Day 2019.*