Katelyn C. Morrison

CONTACT INFORMATION

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RESEARCH INTERESTS

I am interested in exploring topics related to **human-AI collaboration**, **generative AI**, and **explainable AI**. I am comfortable designing and executing **user studies, surveys, and interviews**; building **low-fidelity prototypes in Figma** and **interactive tools using Svelte**; conducting **qualitative** and **quantitative** analyses (i.e., thematic analysis, hypothesis testing); empirical analyses of vision architectures in PyTorch; analyzing large datasets using **Python** or **R**.

EDUCATION

Carnegie Mellon University, Pittsburgh, PA 08/2021 - 05/2026

Ph.D. in Human-Computer Interaction (QPA: 4.05)

University of Pittsburgh, Pittsburgh, PA 08/2018 - 05/2021

B.S., Computer Science & Certificate in Sustainability (GPA: 3.77/4.00) - *Summa Cum Laude*

Moravian College, Bethlehem, PA 08/2017 - 05/2018

General Education Studies

RESEARCH EXPERIENCE

Doctoral Research Assistant, **Carnegie Mellon University** 08/2021 - present

Collaborate on and lead research projects revolving around improving human-AI collaboration in high-stakes scenarios (i.e., building damage assessment from satellite imagery, wildlife conservation, and medical imagery) and explainable AI. Advised by Adam Perer.

Ph.D. Research Intern, **Microsoft Research** 05/2022 - 08/2022

Used mixed methods and self-assessment methodology to understand how workers interact with an AI-powered reminder system (Microsoft's Viva Daily Briefing Email). Created a prototype in Figma based on study findings and conducted think-aloud studies. Advised by Eric Horvitz and Shamsi Iqbal.

Undergraduate Research Intern, **Microsoft Research** 05/2021 - 08/2021

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

Undergraduate Research Fellow, **University of Pittsburgh** 01/2021 - 05/2021

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

Undergraduate Research Assistant, **Carnegie Mellon University** 08/2020 - 05/2021

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. Advised by Mayank Goel.

Data Science Intern, **IQT Labs** 06/2020 - 08/2020

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. Advised by Nina Lopatina.

Undergraduate Research Assistant, **University of Pittsburgh** 08/2019 - 10/2020
Worked on an interdisciplinary team to design an open source system on a Raspberry Pi that non-invasively calculates thoracic rotation range of motion using basic computer vision techniques. Advised by William Clark.

Papers Under Review

Zexuan Li*, **Katelyn Morrison***, Shuyi Han, Jidapa Kraisangka, Charles Fauvel, Priscilla Correa-Jaque, Rebecca Vanderpool, Yongqi Liu, Shili Lin, Adam Perer, Allen Everett, Manreet Kanwar, and Raymond Benza . "Designing and Understanding What-if Explanations in an Interactive Clinical Decision-Support Tool for Pulmonary Hypertension Outcome Risk Assessment and Treatment Guidance ." *under review* at Pulmonary Vascular Research Institute Annual Congress 2024.

Katelyn Morrison, Shamsi Iqbal, and Eric Horvitz. "AI-Powered Reminders for Collaborative Tasks: Experiences and Futures." *under review* at CSCW 2024.

Violet Turri, **Katelyn Morrison**, Katherine-Marie Robinson, Adam Perer, Jodi Forlizzi, and Rachel Dzombak. "From Research to Practice: A Survey of XAI Process Frameworks." *under review* at ICSE NIER 2024.

Philipp Spitzer, **Katelyn Morrison**, Violet Turri, Michelle Feng, Niklas Kühl, and Adam Perer. "Imperfect XAI: On the Influence of Human Factors on Decision-Makers' Performance." *under review* at CHI 2024.

Conference Papers

Katelyn Morrison*, Philipp Spitzer*, Violet Turri, Michelle Feng, Niklas Kühl, and Adam Perer. "The Impact of Imperfect XAI on Human-AI Decision-Making." *conditionally accepted* at CSCW 2024.

Katelyn Morrison, Mayank Jain, Jessica Hammer, and Adam Perer. "Eye into AI: Evaluating the Interpretability of Explainable AI Techniques through a Game With a Purpose." In ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW) 2023.

Katelyn Morrison, Donghoon Shin, Kenneth Holstein, and Adam Perer. "Evaluating the Impact of Human Explanation Strategies on Human-AI Visual Decision-Making." In ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW) 2023.

Workshop Papers

Katelyn Morrison, Ankita Mehra, and Adam Perer. "Shared Interest...Sometimes: Understanding the Alignment between Human Perception, Vision Architectures, and Saliency Map Techniques." In XAI4CV at the 2023 Conference on Computer Vision and Pattern Recognition 2023 (CVPR) 2023.

Vivek Aswal*, Gore Kao*, Seo Young Kim*, and **Katelyn Morrison***. "Towards Generating Human-Centered Saliency Maps without Significantly Sacrificing Accuracy." In NeuroVision Workshop, CVPR 2022. **All authors contributed equally and are ordered alphabetically.*

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, the Netherlands.

Service

Reviewer

ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW)	2023
ACM International Conference on Intelligent User Interfaces (IUI)	2023
ACM Symposium on User Interface Software and Technology (UIST)	2023
ACM Conference on Human Factors in Computing Systems (CHI) Late-Breaking Work (LBW)	2023
ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW)	2022
ACM Conference on Human Factors in Computing Systems (CHI)	2022
ACM Interactive Surfaces and Spaces (ISS)	2021
ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW)	2021

Organizing Committee

NeurIPS Computational Sustainability Workshop	2023
Computational Sustainability Doctoral Consortium	2020, 2022

Community Engagement

CHI Student Volunteer	2023
Graduate Student Association Representative	2021, 2022, 2023
Undergraduate Research Engagement Working Group	2021, 2022, 2023

Mentorship & Advising

Ervin Song, Carnegie Mellon University '27	09/2023 - 04/2024
Crystal Li, University of Pittsburgh '24	08/2023 - 12/2023
Kristin Shuyi Han, University of California, San Diego '24	07/2023 - Current
Zixuan Li, Carnegie Mellon University '24	05/2023 - Current
Michelle Feng, Carnegie Mellon University '25	01-06/2023
Benjamin Gilby, University of Pittsburgh '23	2020, 2021

Honors and Awards

School of Computing & Information Commencement Speaker	05/2021
CS Dept. Most Outstanding Undergraduate Student Award	05/2021
Chancellor's Undergraduate Research Fellowship	01-05/2021
Ivan Santa-Cruz Memorial Study Abroad Scholarship	02/2020
Pitt Study Abroad Office Scholarship	02/2020
Adobe Research Women in Technology Scholarship Finalist	11/2019
Stanford University Innovation Fellowship	10/2019-05/2020
United Nations Academic Impact Group Millennium Fellowship	08-12/2019

Skills

Research Methods

Systematic literature reviews; think-aloud studies; Semi-structured interviews; self-assessment surveys; user studies; thematic analysis; Mechanical Turk; Prolific; hypothesis testing

Relevant Coursework

Data Visualization (F21), Visual Learning & Recognition (S22), Human-AI Interaction (F22), Medical Image Analysis (S23), Interaction Design (F23)

Programming Languages, Libraries, & Frameworks

Python, R, HTML, JavaScript, PyTorch, Pandas, Plotly, Google Cloud Platform & Firebase, Svelte, D3, Jupyter Notebooks, Google Colab, Folium, OpenCV