# Katelyn C. Morrison


CONTACT INFORMATION

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RESEARCH INTERESTS

I am interested in exploring topics related to **humans collaborating with generative AI** or **explainable AI**. I am comfortable working with **language models** and **computer vision models**, 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

Master of Science in Human-Computer Interaction (Class of 2024)
Ph.D. in Human-Computer Interaction (QPA: 4.09)

**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

My research explores the application of explainable AI techniques, from explaining to augmenting, in human-AI interactions with a wide range of AI systems, including image classifiers, conversational agents, and text-to-image generative models. Advised by Adam Perer.

*Human-Centered Generative AI Research Intern*, **IBM Research** — 05/2024 - 08/2024

Explored ways to help human-AI teams establish a Mutual Theory of Mind through a cooperative party game called Wavelength. Skills developed include prompt engineering, LLM evaluation, and conversational analysis. Advised by Justin Weisz and Zahra Ashktorab.

*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 email-based reminder system. 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 for IMU sensor data collection. 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

**Katelyn Morrison**, Zexuan Li, Malia Hong, Jidapa Kraisangka, Charles Fauvel, Priscilla Correa-Jaque, Rebecca Vanderpool, Shili Lin, Sandeep Sahey, Allen Everett, Manreet Kanwar, Ray Benza, and Adam Perer. "The Evolving Needs for and Uses of Physician-Driven Counterfactual Explanations throughout Patient Care" *Under review at ACM CHI 2025.*

**Katelyn Morrison**, Gabriel Enrique Gonzalez, Zahra Ashktorab, Matt Reimer, Djallel Bouneffouf, Andrew Anderson, and Justin Weisz. "'On the Same Wavelength': Towards Establishing a Mutual Theory of Mind in Human-AI Collaboration" *Under review at ACM CHI 2025.*

Philipp Spitzer, Joshua Holstein, **Katelyn Morrison**, Ken Holstein, Gerhard Satzger, and Niklas Kühl. "Don't be Fooled: The Misinformation Effect of Explanations in Human-AI Collaboration." *Under review at ACM CHI 2025.*

## Conference Papers

Yanwu Xu, Li Sun, Wei Peng, Shuyue Jia, **Katelyn Morrison**, Adam Perer, Shyam Visweswaran, Motahhare Eslami, and Kayhan Batmanghelich. "MedSyn: Text-guided Anatomy-aware Synthesis of High-Fidelity 3D CT Images". IEEE Transactions on Medical Imaging. 2024.

Violet Turri*, **Katelyn Morrison***, Katherine-Marie Robinson, Collin Abidi, Adam Perer, Jodi Forlizzi, Rachel Dzombak. "From User Needs to Model Behavior: Enhancing Transparency in AI-Powered Decision-Support Tools in the Wild". In ACM Conference on Fairness, Accountability, and Transparency (FAccT) 2024.

**Katelyn Morrison**, Shamsi Iqbal, and Eric Horvitz. "AI-Powered Reminders for Collaborative Tasks: Experiences and Futures." In ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW) 2024.

**Katelyn Morrison***, Philipp Spitzer*, Violet Turri, Michelle Feng, Niklas Kühl, and Adam Perer. "The Impact of Imperfect XAI on Human-AI Decision-Making." In ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (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.

## Abstracts & Posters

**Katelyn Morrison***, Zexuan Li*, Shuyi Han, Jidapa Kraisangka, Charles Fauvel, Priscilla Correa-Jaque, Rebecca Vanderpool, Yongqi Liu, Shili Lin, Adam Perer, Allen Everett, Manreet Kanwar, and Raymond Benza . "What-if Explanations in an AI-Driven Clinical Decision-Support Tool for Pulmonary Arterial Hypertension." Mount Sinai Fuster Heart Research Forum. 2024.

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 ." Pulmonary Vascular Research Institute Annual Congress. 2024.

## Workshop Papers

**Katelyn Morrison**, Philipp Spitzer, Michelle Feng, Violet Turri, Niklas Kühl, and Adam Perer. "Imperfect Natural Language Explanations in Human-AI Decision-Making." In Trust and Reliance in Evolving Human-AI Workflows (TREW) Workshop at ACM CHI 2024.

**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**

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|---|---|
| International Journal of Human - Computer Studies | 2024 |
| ACM CSCW, ACM CHI ToM Workshop & HCXAI Workshop, ICML Workshops | 2024 |
| ACM CSCW, ACM IUI, ACM UIST, ACM CHI LBW | 2023 |
| ACM CSCW, ACM CHI | 2022 |
| ACM ISS, ACM CSCW | 2021 |

**Organizing/Program Committee**

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|---|---|
| ACM VISxAI Workshop (PC) | 2024 |
| CVPR XAI4CV Workshop | 2024 |
| ACM CHI Theory of Mind Workshop (PC) | 2024 |
| NeurIPS Computational Sustainability Workshop | 2023 |
| Computational Sustainability Doctoral Consortium | 2020, 2022 |

**Community Engagement**

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

**Mentorship**

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|---|---|
| Isabella Rhee & Minsuk Kim, Carnegie Mellon University '24 | 01-05/2024 |
| Natalie Sarabosing, Carnegie Mellon University '27 | 01-12/2024 |

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

## Honors and Awards

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| Center for Machine Learning & Health Digital Health Innovations Fellowship | 08/2024 - 08/2025 |
| 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 with Radiology Shadowing (S23), Interaction Design (F23)

**Programming Languages, Libraries, & Frameworks**

Python, R, HTML, JavaScript, PyTorch, Pandas, Plotly, Google Cloud Platform, Svelte, D3, Flask, Apache, Nginx, Gunicorn