

Aimen Gaba

✉ agaba@umass.edu | 🌐 www.aimengaba.com | 🔗 linkedin.com/in/aimengaba | 🐦 @aimen_gaba | 🎓 Google Scholar

Research Focus

Human-Centered Artificial Intelligence, HCI, Mixed-Methods Research, Human Factors, Information Visualization, Accessibility

Education

University of Massachusetts Amherst

Amherst, MA, USA

PhD in Computer Science

Sep 2021 - Jun 2025 (expected)

- **Thesis:** Towards Fair and Trustworthy AI: A Human-Centered Approach
- **Advisors:** Dr. Cindy Xiong Bearfield, Dr. Yuriy Brun
- **Interests:** HCI, Human-Centered AI, Responsible AI, Data Visualization, Human Perception, Natural Language
- Achieved PhD candidacy with **distinction**

University of Massachusetts Amherst

Amherst, MA, USA

MS in Computer Science, GPA: 3.9

Sep 2021 - Dec 2023

- **Courses:** Advanced Methods in HCI, Introduction to Neural Networks, Making Sense of Visual Information, Research Methods

Work Experience

Adobe Research

College Park, MD, USA

Research Scientist/Engineer Intern

May 2024 - Aug 2024

- **Team:** Document Intelligence Lab
- Designed a novel prototype to include Search and Generative AI assistance in document-grounded user workflows
- Led qualitative user research (interviews, task-based studies) to evaluate user preferences for generative vs. extractive AI assistance.

University of Massachusetts Amherst

Amherst, MA, USA

Research Assistant

Sep 2021 - Present

- Developed design guidelines to support fairness and inclusivity in AI systems, grounded in user interviews and empirical analysis
- Investigated the impact of bias in large language models (LLMs) on trust and decision making among individuals of diverse gender identities
- Established design recommendations for ML visualizations and analytics tools by investigating impact of visualization design on fairness vs. accuracy trade-offs for decision making, and by identifying gender-based differences in decision patterns
- Created a visualization design framework for ambiguous natural language comparisons, informing design implications through user interviews and empirical validation

Carnegie Mellon University

Pittsburgh, PA, USA

Visiting Researcher

Jul 2023 - Aug 2023

- Investigated how blind and low-vision individuals approach technology and innovation when given the opportunity to lead design efforts by employing speculative design methods

Tower Technologies (Pvt.) Ltd

Lahore, Pakistan

UX/UI Designer

Jun 2019 - Mar 2020

- Constructed user personas and storyboards by conducting user research
- Built lo-fi prototypes and wire-frames, and eventually hi-fi prototypes iteratively tested by the users
- Formulated the solution with user flow diagrams and brainstorming

Skills

Programming Python (Pandas, NumPy), R, Vega-Lite, C++, JavaScript, D3, HTML/CSS

User Research Qualitative Analysis, Quantitative Analysis, User Experience (UX) Design, Study Design, User Interviews, User Surveys

Analysis Statistical Analysis (ANOVA, t-test, Regression), Bootstrapping, Thematic Analysis

Tools Figma, Tableau, R Studio, Adobe InDesign, Adobe Photoshop, Android Studio

Publications

My Model is Unfair, Do People Even Care? Visual Design Affects Trust and Perceived Bias in Machine Learning

IEEE VIS, Melbourne, Australia

Aimen Gaba, Zhanna Kaufman, Jason Cheung, Marie Shvakel, Kyle Hall, Yuriy Brun, and Cindy Xiong Bearfield

Oct 2023

Comparison Conundrum and the Chamber of Visualizations: An Exploration of How Language Influences Visual Design

Aimen Gaba, Vidya Setlur, Arjun Srinivasan, Jane Hoffswell, and Cindy Xiong

IEEE VIS, Oklahoma, USA

Oct 2022

How Do We Measure Trust in Visual Data Communication?

Hamza Elhamedi, Aimen Gaba, Yea-Seul Kim, and Cindy Xiong

IEEE BELIV, Oklahoma, USA

Oct 2022

Reasoning Affordances with Tables and Bar Charts

Cindy Xiong, Elsie Lee Robbins, Icy Zhang, Aimen Gaba, and Steven Franconeri

IEEE TVCG, Melbourne, Australia

Oct 2023

Bias, Accuracy, and Trust: Gender-Diverse Perspectives on Large Language Models

Aimen Gaba, Emily Wall, Tejas Ramkumar Babu, Kyle Hall, Yuriy Brun, and Cindy Xiong Bearfield

CSCW 2026

Under Review

How Do Blind & Low-Vision Individuals Perceive, Design, & Innovate Assistive Technology

Aimen Gaba, Frank Elavsky, Dominik Moritz, and Cindy Xiong Bearfield

CHI 2026

In Preparation

Tulna: A Chain-of-Thought Approach for Interpreting Natural Language Comparisons in Visual Analytics

Vidya Setlur, Aimen Gaba, Kylie Lin, and Cindy Xiong Bearfield

CHI 2026

In Preparation

Awards & Honors

Current	Responsible Technology Coalition Leadership Team Member , University of Massachusetts Amherst	Amherst, USA
2024	GHC Scholar (UMass CICS Scholarship) , Grace Hopper Celebration	Philadelphia, USA
2021-23	CSWomen Social Events Coordinator , University of Massachusetts Amherst	Amherst, USA
2023	Tapia Scholar (UMass CICS Scholarship) , ACM Richard Tapia Conference	Dallas, USA
2022	CRA Scholar , CRA-WP for IDEALS	San Diego, USA
2022	Visiting Graduate Student with Jamie Morgenstern , University of Washington	Seattle, USA
2022	Student Volunteer at Undergraduate Research Night , University of Massachusetts Amherst	Amherst, USA
2021	\$10,000 Research Scholarship , Adobe Research	Amherst, USA
2021	\$4,000 CICS PhD Scholarship , University of Massachusetts Amherst	Amherst, USA