Aimen Gaba

✉ agaba@umass.edu | ⌂ www.aimengaba.com | in linkedin.com/in/aimengaba | ✔ @aimen_gaba | 🎓 Google Scholar

Education

University of Massachusetts Amherst *Amherst, MA, USA*
PhD in Computer Science *Dec 2023 - Nov 2025 (expected)*
- **Advisors:** Dr. Cindy Xiong Bearfield, Dr. Yuriy Brun
- **Thesis:** Understanding How Natural Language & Visual Design Affects Trust & Perceived Bias in Machine Learning Systems
- **Interests:** HCI, Data Visualization, Ethical AI, Trust in AI, Natural Language, Fairness and Bias

University of Massachusetts Amherst *Amherst, MA, USA*
MS in Computer Science, GPA: 3.9 *Sep 2021 - Dec 2023*
- **Thesis:** How Visualization Design Affects Trust & Perceived Bias in Machine Learning
- **Courses:** Advanced Methods in HCI, Introduction to Neural Networks, Making Sense of Visual Information, Research Methods
- Achieved PhD candidacy with **distinction** for MS thesis project

Lahore University of Management Sciences *Lahore, Pakistan*
BS in Computer Science *Aug 2014 - Jun 2018*
- **Interests:** HCI, Affective Computing, Context-Aware Tools, Ed-Tech, Health Informatics
- **Courses:** Human-Computer Interaction, Computer Graphics, Topics in Interactive Computing

Work Experience

Adobe Research *College Park, MD, USA*
Research Scientist/Engineer Intern *May 2024 - Aug 2024*
- **Team**: Document Intelligence Lab under supervision of Dr. Ani Nenkova, Dr. Alexa F Siu, and Dr. Jack Wang
- Designed a novel prototype to include Search and Generative AI assistance in document-grounded user workflows and conducted extensive user interview studies to evaluate user preferences for generative vs. extractive responses
- **Skills:** User Research, Prototyping, Design Sprints, User Study Design, Thematic Analysis, Statistical Analysis

University of Massachusetts Amherst *Amherst, MA, USA*
Research Assistant *Sep 2021 - Present*
- Developed design recommendations for ML visualizations and visual analytics tools by investigating the impact of visualization design on fairness vs. accuracy trade-offs for decision making and identifying gender differences in decision making patterns
- Examined the impact of bias in large language models (LLMs) on trust and decision making among individuals of diverse gender identities
- Created a visualization design framework for ambiguous natural language comparisons, informing design implications through user interviews and empirical validation
- Advised by Dr. Emily Wall, Dr. Kyle Wm. Hall, Dr. Yuriy Brun, and Dr. Cindy Xiong Bearfield. Ongoing collaboration with **Tableau Research** under Dr. Vidya Setlur
- **Skills:** R, D3, JavaScript, HTML/CSS, User Interviews, Survey Design, Statistical Analysis

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 (ongoing collaboration with Frank Elavsky and Dr. Dominik Moritz)
- **Skills:** User Research, Study Design, User Interviews, Thematic Analysis, Longitudinal Study

Tower Technologies (Pvt.) Ltd *Lahore, Pakistan*
UX/UI Designer *Jun 2019 - Mar 2020*
- Constructed user personas and storyboards by conducting user research, formulated the solution with user flow diagrams and brainstorming, built the lo-fi prototypes and wire-frames, and eventually hi-fi prototypes iteratively tested by the users.
- **Skills:** User Experience (UX), Design Thinking, Adobe Photoshop, Lo-fi & Hi-fi Prototyping, Leadership

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 *IEEE VIS, Oklahoma, USA*
Aimen Gaba, Vidya Setlur, Arjun Srinivasan, Jane Hoffswell, and Cindy Xiong *Oct 2022*

How Do We Measure Trust in Visual Data Communication? *IEEE BELIV, Oklahoma, USA*

Hamza Elhamdadi, <u>Aimen Gaba</u>, Yea-Seul Kim, and Cindy Xiong *Oct 2022*

Reasoning Affordances with Tables and Bar Charts *IEEE TVCG*

Cindy Xiong, Elsie Lee Robbins, Icy Zhang, <u>Aimen Gaba</u>, and Steven Franconeri *Jan 2023*

Awards & Honors

Current	**Responsible Technology Coalition Programming Coordinator** , University of Massachusetts Amherst	*Amherst, 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*
2021	**Student Volunteer,** IEEE VIS	*Virtual Conference*

Skills

Programming	Python (Pandas, NumPy), Vega-Lite, R, C++, HTML/CSS, D3, JavaScript.
Miscellaneous	Tableau, LaTeX(Overleaf/R Markdown), Git, MS Office Firebase, Shell (Bash/Zsh).
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.