

MARYAM SAADAT CHEEMA

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RESEARCH INTERESTS

Human–AI Interaction, Accessibility, Evaluation of Generative AI Systems

EDUCATION

- Ph.D. in Computer Science, Advisors: Dr. Hasti Seifi & Dr. Pooyan Fazli** Jan 2025 - May 2028 (Expected)
Arizona State University, Tempe, AZ
- M.S. Computer Science, Advisor: Dr. Hasti Seifi** Aug 2022 - Dec 2024
Arizona State University, Tempe, AZ
- B.S. Computer Science** Aug 2018 - May 2022
Lahore University of Management Sciences, Lahore, Pakistan

PUBLICATIONS

- Cheema, Maryam S., Sina Elahimanesh, Samuel Martin, Pooyan Fazli, and Hasti Seifi. **"DescribePro: Collaborative Audio Description with Human-AI Interaction."** *In Proceedings of the 27th International ACM SIGACCESS Conference on Computers and Accessibility*
- Cheema, Maryam, Hasti Seifi, and Pooyan Fazli. **"Describe Now: User-Driven Audio Description for Blind and Low Vision Individuals."** *In Proceedings of the 2025 ACM Designing Interactive Systems Conference*
- Li, Chaoyu, Sid Padmanabhuni, Maryam S. Cheema, Hasti Seifi, and Pooyan Fazli. **"VideoA11y: Method and dataset for accessible video description."** *In Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*
- Li, Chaoyu, Sid Padmanabhuni, Maryam Cheema, Hasti Seifi, and Pooyan Fazli. **"VideoA11y-40K: A Large-Scale Dataset for Accessible Video Understanding."** *In Proceedings of the VizWiz Grand Challenge Workshop, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). 2025.*

RESEARCH EXPERIENCE

- Arizona State University, Tempe, AZ: Graduate Researcher** Mar 2023 – Present
- Developed ViDScribe, a platform to empower blind and low vision users by providing AI-generated audio descriptions. Developed the frontend using ReactJS and Material UI, and the backend using AWS (Lambda, Amplify, DynamoDB, S3) and Docker.
 - Designed and tested a prototype for customizable audio description (AD), allowing BLV users to select concise or detailed AD during video playback.
 - Designed a prototype to test a collaborative AD authoring system that enables describers to iteratively refine AI-generated descriptions through multi-modal large language model (LLM) prompting and manual editing.
 - Developed audio description guidelines for prompting LLMs, used in VideoA11y-40K, the first large-scale video description models training dataset of 40,000 videos.

WORK EXPERIENCE

- AI Cloud Innovation Center, Tempe, AZ: UI/UX Designer & Developer** Aug 2023 – Nov 2024
- Built reusable ReactJS components for generative AI chat platforms. Led development of 3 GenAI apps for government and enterprise clients using AWS (Bedrock, Lambda).
 - Designed and prototyped six smart city projects using Figma.

TEACHING

- Arizona State University, Tempe, AZ: Teaching Assistant – HCI**
- Teaching assistant for Human-Computer Interaction for Fall 2023, Spring 2024, Spring 2025, Fall 2025

TECHNICAL SKILLS

- Research:** User Studies, Statistical and Thematic analysis
Programming: Javascript, C++, Python, HTML, CSS
Design Tools: Figma, Adobe XD, Canva