Morva Saaty

HCI/AI Researcher with 2+ years of experience
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Scholar | LinkedIn | Website | Twitter | GitHub

Education

Ph.D., Computer Science and Applications, Virginia Tech, Blacksburg, VA, 2020 – Dec. 2025

M.Sc., Information Technology Engineering, University of Tehran, Tehran, Iran, 2016 - 2018

B.Sc., Information Technology Engineering, University of Tehran, Tehran, Iran, 2011 – 2016

Technical Skills

Programming Languages: Python, Java, C++, SQL
Machine Learning: Pandas, PyTorch, Scikit-Learn, Numpy, Librosa, OpenCV, Whisper
Natural Language Processing: NLTK, Gensim, Spacy, LLM, Topic Modeling, Prodigy
Generative AI: Transformer models (BERT, GPT, Gemini), Open source LLMs (Llama), RAG, LangChain, Fine-tuning
Visualization: Tableau, D3.js, ggplot2, matplotlib, Vega, Vega-Lite, Plotly
Database: SQL Database systems (SQLite, PostgreSQL), NoSQL Database (Firebase)
Tools: Git, Jupyter, PyCharm, IntelliJ Idea, RStudio, Eclipse, VSCode, JMP, Streamlit
HCI Research: Lab Experiments, Field Studies, Interview Studies, Workshops, Survey Research, Contextual Inquiry, Qualitative Methods, Quantitative Methods, Mixed Methods
Notable Passed Courses: Introduction to Big Data, Deep Learning, Information Visualization, Data Analytics, Advanced Machine Learning, Statistical Inference, Usability Engineering, Models and Theories in HCI, User Interface Software

Selected Professional Experiences

Generative AI Research Scientist Intern at Procter & Gamble, Mason, OH, May. 2024 – August. 2024

- Developed and evaluated a **multimodal application using LLMs** (GPT, Llama, Gemini) to enhance consumer experience, offering chatbot, search, data export, and Q&A features (using Python, Streamlit, and Langchain).
- **Automated** understanding of users' video diaries to obtain structured information.
- **Collaborated with business and product teams** to determine their needs, resulting in the development of an AI-powered application to generate customized synthetic customers at the population level.

Data Scientist Intern at Procter & Gamble, Mason, OH, May. 2023 – August. 2023

- **Worked on a R&D team to Develop a method** for multimodal universal information extraction from video diaries and **conducted exploratory analysis** of cross-modal relationships using generative AI (GPT) for text classification, statistical analysis and multimodal emotion recognition.
- **Collected and aggregated multimodal data** from social media platforms (e.g., YouTube, Reddit) using advanced web scraping techniques, creating a comprehensive dataset of audio, text, and images.

Graduate Student Researcher in Notification Systems lab, Virginia Tech, Blacksburg, VA, Aug. 2020 – present
Advisor: Dr. Scott McCrickard (Supervisory Team: Dr. Kurt Luther, Dr. Shaddi Hasan, and Dr. Shalini Misra)

- Worked on research related to **serious games**, **social computing**, **human-AI collaboration**, **sustainability in outdoors**, **AI-supported decision making,** and **digital storytelling.**
- **Developed** a **large-scale cross-dataset** of individuals' months-long journeys in the context of long-distance hiking using crowdsourced data (e.g., blogs).
- Conducted a **mixed-methods exploratory analysis** to understand individuals' needs and experiences in game-mediated technologies to provide design recommendations for enhancing person-place interactions.
- **Led** a team of 4 undergraduate students to develop a mobile-based application for **in-the-wild data collection, preparing a longitudinal study** to understand users' experiences in a prolonged outdoor activity.
- **Co-ran online interview studies and focus group discussions** to understand users' needs and strategies for fostering connections through sharing outdoor game-mediated experiences.
- **Researched** on individuals' prolonged outdoor journeys, using **machine learning techniques** and **qualitative analysis** to understand individuals' emotional and social experiences and **synthesized the results** to enhance mental health, effective resource management, and provide design considerations for reflective technologies.

- **Collaborated** in a **cross-functional team** to **co-led online interview studies, co-ran two workshops,** and **conduct a field study** to understand opportunities and tensions that technology and social media brings in outdoors, **helped synthesize the results** into a framework to inform sustainable resource management.

Graduate Student Researcher in Multimedia lab, University of Tehran, Iran, Mar. 2017 – Dec. 2018
Master's thesis: Audio-Visual Attention Model in Cloud Gaming

- Studied the effects of audio features on players' visual attention maps for efficient bitrate allocation in video games (**Using Eye Tracking system**, experimental design, lab studies, and quantitative analysis).

Leadership Experiences | Service Activities | Awards

- Served as **community engagement officer** at Center for Human-Computer Interaction and Computer Science **diversity representative** at the graduate council at Virginia Tech (Year of 2024)
- **ACM reviewer** for CHI 2023, CHI 2022, NordiCHI 2022, TEI 2023, and CHI Play 2022.
- A member of ACM Special Interest Group on Computer-Human Interaction and ACM Journal on Computing and Sustainable Societies review board.
- **Student Volunteer** at COMPASS 2022 and CHIPLAY 2022 (Duties included moderating paper sessions, asking questions, and resolving technical issues.)
- **Co-advised** 12 undergraduate students for HCI Capstone projects and **mentored** a graduate student for master thesis at Virginia Tech (Spring 2023, Spring 2022, and Fall 2021).
- **Designed and conducted a workshop** at ACM Capital Region Celebration of Women in Computing about designing mobile outdoor games considering diversity and inclusion perspectives (Spring 2023).
- Led and facilitated user studies across 70+ participants testing my mobile app and observing users' behaviors in the science festival at Virginia Tech (Spring 2023).
- Being nominated by Virginia Tech for PhD Fellowship program at Google (Fall 2021) and Microsoft (Fall 2022).
- Received Scholarship to participate in Grace Hopper Celebration 2021 and 2022, Tapia'20, and COMPASS'22.
- Selected to participate in CRA-WP 2022 (Grad Cohort workshop for women) and ACM-CAPWIC 2023.

Selected Publications

- **Morva Saaty**, Meagan B. Loerakker, Wei-Lu Wang, Yusheng Cao, Kris Wernstedt, Shalini Misra, D. Scott McCrickard et al. *Socio-Technical Journeys: Emotion and Blog Usage in a Long-Distance Hiking Community***.** *Proceedings of the ACM on Human-Computer Interaction*, (CSCW). 2025. [Under-Reviewed]

- **Morva Saaty**, Natalie Andrus, Norhan Abdelgawad, D. Scott McCrickard et al. "Is Long-distance Hiking an Emotional Roller Coaster?" Evaluating Emotions and Weather Effects on the Appalachian Trail. In *Extended Abstracts of the **CHI** Conference on Human Factors in Computing Systems*, pp. 1-8. 2024.

- Lindah Kotut, Neelma Bhatti, Taha Hassan, Derek Haqq, and **Morva Saaty**. "Griot-Style Methodology: Longitudinal Study of Navigating Design With Unwritten Stories." In *Proceedings of the **CHI** Conference on Human Factors in Computing Systems*, pp. 1-14. 2024.

- **Morva Saaty**, Derek Haqq, Mohammadreza Beyki, Taha Hassan, and D. Scott McCrickard. "Pokémon GO with Social Distancing: Social Media Analysis of Players' Experiences with Location-based Games." *Proceedings of the ACM on Human-Computer Interaction* 6, no**. CHI PLAY** (2022): 1-22.

- **Morva Saaty**, and Mahmoud Reza Hashemi. "Game Audio Impacts on Players' Visual Attention, Model Performance for Cloud Gaming." In *2022 Symposium on Eye Tracking Research and Applications* (**ETRA**), pp. 1-7. 2022.

- **Morva Saaty**, Derek Haqq, Devin B. Toms, Ibrahim Eltahir, and D. Scott McCrickard. "A Study on Pokémon GO: Exploring the Potential of Location-based Mobile Exergames in Connecting Players with Nature." In *Extended Abstracts of the 2021 Annual Symposium on Computer-Human Interaction in Play*, pp. 128-132. 2021.

- Lindah Kotut, Neelma Bhatti, **Morva Saaty**, Derek Haqq, Timothy L. Stelter, and D. Scott McCrickard. "Clash of times: Respectful technology space for integrating community stories in intangible exhibits." In *Proceedings of the 2020 **CHI** Conference on Human Factors in Computing Systems*, pp. 1-13. 2020.