Mahsan Nourani, Ph.D.

Human-centered AI/XAI . Responsible AI . Decision-making . Visual Analytics

My interdisciplinary research lies in the intersection of HCI, AI/ML, psychology, and social sciences. I study people's interactions with and understanding of AI/ML systems, specifically those used for AI-assisted decision-making. My research has implications for building ethical and responsible AI systems.

🏠 www.mahsan.page   ✉ m.nourani@northeastern.edu   🎓 Google Scholar
in LinkedIn   🐙 Github

Education

Aug 2017 — Aug 2023 *Ph.D., Computer Science*
University of Florida (Transferred: Texas A&M University in 2018), Gainesville, Florida
Thesis: "Shadows of the Past: The Effects of User's Differences and Past Experiences on Human-AI Partnership"
Advisor: Eric D. Ragan
Committee: Juan Gilbert, Jenn Wortman Vaughan, Peter Kvam, Vincent Binschaedler

Dec 2021 *M.S., Computer Science*
University of Florida, Gainesville, Florida
GPA: 3.80/4.0

Sep 2012 — Jun 2017 *B.E., Information Technology (Computer Engineering)*
University of Tehran, Tehran, Iran
Thesis: "Teaching Turn-taking to Children with Autism"
GPA: 3.70/4.0

Research Experience

Oct 2023 — Present *Northeastern University*, Khoury College of Computer Science
Research Assistant Professor and Roux Institute Member

Aug 2018 — Aug 2023 *University of Florida*, Gainesville, Florida
Research Assistant
Advisor: Eric D. Ragan

May 2022 — Aug 2022 *Apple Inc.*, Sunnyvale, California
Research Intern, Technology Development Group
Mentor: Marco Cavallo

May 2021 — Aug 2021 *Microsoft Research*, New York, New York
Research Intern, Fairness, Accountability, Transparency, & Ethics (FATE) team
Mentor: Hal Daumé III, Jenn Wortman Vaughan, Solon Barocas, Forough Poursabzi

Aug 2017 — Aug 2018 *Texas A&M University*, College Station, Texas
Research Assistant
Advisor: Eric D. Ragan

Feb 2015 — Jun 2017 *University of Tehran*, Tehran, Iran
Undergraduate Research Assistant
Advisor: Hadi Moradi

Honors and Awards

2024 **Chair's Best Talk Award** (C.6)
AAAI Conference on Human Computation & Crowdsourcing (HCOMP), Recipient

2022 **Doctoral Colloquium Fellowship**
IEEE Visualization & Visual Analytics Conference, (~$4000)

2021 **ACM IUI Best Paper Award** (C.5)
Honorable Mention, Recipient

2021, 2022	**Gartner Group Graduate Fellowship**
	Herbert Wertheim College of Engineering, University of Florida, Recipient
2021 — 2023	**Special Recognition for Outstanding Review**
	ACM CHI Conference on Human Factors in Computing Systems, Recipient
2020	**Outstanding Achievement Award** (Top 9%)
	Herbert Wertheim College of Engineering, University of Florida, Recipient
2016	**4th Iran Game Developers Cup (team participation)**
	Kashan, Iran, Winner
2012	**Nationwide University Entrance Exam in Mathematics and Physics** (Top 0.1%)
	Tehran, Iran, Ranked 542th
2012	**Nationwide University Entrance Exam in English and Foreign Languages** (Top 0.4%)
	Tehran, Iran, Ranked 242th

Grants

Current Grant Support

Jan 2024 — Dec 2024	**Northeastern Impact Engines Grant:** Healthcare Enabled by AI in Real Time: HEA(RT)
	PI(s): Rai Winslow, Gene Tunik — Responsible for: ~$80,000

Completed Grant Support

May 2024 — Oct 2024	**Santovia Health Partnership:** AI Health Advisor
	PI(s): Gene Tunik — total: $200,000 — Responsible for: ~$13,000

Publications

Ph.D. Dissertation

Shadows of the Past: The Effects of User's Differences and Past Experiences on Human-AI Partnership
Mahsan Nourani

University of Florida, Herbert Wertheim School of Engineering. Doctoral Dissertation. (August 2023)

Refereed Journal Papers

J.6 Explainable Activity Recognition in Videos using Deep Learning and Tractable Probabilistic Models
Chiradeep Roy, **Mahsan Nourani**, Shivvrat Arya, Mahesh Shanbhag, Tahrima Rahman, Eric D Ragan, Nicholas Ruozzi, Vibhav Gogate
ACM Transactions on Interactive Intelligent Systems (TiiS). (2023)

J.5 An Evaluation of View Rotation Techniques for Seated Navigation in Virtual Reality
Brett Benda, Shyam Prathish Sargunam, **Mahsan Nourani**, Eric D Ragan
IEEE Transactions on Visualization and Computer Graphics (TVCG). (2023)

J.4 DETOXER: A Visual Debugging Tool with Multi-Scope Explanations for Temporal Multi-Label Classification
Mahsan Nourani, Chiradeep Roy, Donald Honeycutt, Eric Ragan, Vibhav Gogate
IEEE Computer Graphics and Applications (CG&A). (2022)

J.3 On the Importance of User Backgrounds and Impressions: Lessons Learned from Interactive AI Applications
Mahsan Nourani, Chiradeep Roy, Jeremy Block, Donald Honeycutt, Tahrima Rahman, Eric Ragan, Vibhav Gogate
ACM Transactions on Interactive Intelligent Systems (TiiS). (2022)

J.2 Explainable Activity Recognition in Videos: Lessons Learned
Chiradeep Roy, **Mahsan Nourani**, Jeremy Block, Donald Honeycutt, Tahrima Rahman, Eric Ragan, Nicholas Ruozzi, Vibhav Gogate
Applied AI Letters. (2021)

J.1 SplitStreams: A Visual Metaphor for Evolving Hierarchies
Fabian Bolte, **Mahsan Nourani**, Eric Ragan, Stefen Bruckner
IEEE Transactions on Visualization and Computer Graphics (TVCG). (2020)

Refereed Conference Papers

C.6 User Profiling in Human-AI Design: An Empirical Case Study of Anchoring Bias, Individual Differences, and AI Attitudes
Mahsan Nourani, Amal Hashky, Eric Ragan
In AAAI Conference on Human Computation and Crowdsourcing (HCOMP). (2024)
🏆 Chair's Best Talk Award

C.5 Anchoring Bias Affects Mental Model Formation and User Reliance in Explainable AI Systems
Mahsan Nourani, Chiradeep Roy, Jeremy Block, Donald Honeycutt, Tahrima Rahman, Eric Ragan, Vibhav Gogate
26th International Conference on Intelligent User Interfaces (IUI). (2021)
🏆 Best paper, Honorable Mention Award

C.4 **Understanding the Effects of Explanation Types and User Motivations on Recommender System Use**

Qing Li, Sharon Chu, Nanjie Rao, Mahsan Nourani

In AAAI Conference on Human Computation and Crowdsourcing (HCOMP). (2021)

C.3 **Soliciting Human-in-the-Loop User Feedback for Interactive Machine Learning Reduces User Trust and Impressions of Model Accuracy**

Donald Honeycutt, Mahsan Nourani, Eric Ragan

In AAAI Conference on Human Computation and Crowdsourcing (HCOMP). (2021)

C.2 **The Role of Domain Expertise in User Trust and The Impact of First Impressions with Intelligent Systems**

Mahsan Nourani, Joanie King, Eric Ragan

In AAAI Conference on Human Computation and Crowdsourcing (HCOMP). (2020)

C.1 **The Effects of Meaningful and Meaningless Explanations on Trust and Perceived System Accuracy in Intelligent Systems**

Mahsan Nourani, Samia Kabir, Sina Mohseni, Eric Ragan

In AAAI Conference on Human Computation and Crowdsourcing (HCOMP). (2019)

Conference Workshop Papers, Posters, and Presentations

P.5 **Shadows of the Past: The Effects of User's Past Experiences and Expectations on Human-AI Partnership**

Mahsan Nourani

IEEE Visualization and Visual Analytics Conference, Doctoral Colloquium (DC). (2022)

P.4 **Romadoro: Leveraging Nudge Techniques to Encourage Break-Taking**

Katarina Jurczyk, Christopher You, Mahsan Nourani, Manas Gupta, Lisa Anthony, Benjamin Lok

The ACM Symposium on User Interface Software and Technology (UIST). (2021)

P.3 **Investigating the Importance of First Impressions and Explainable AI with Interactive Video Analysis**

Mahsan Nourani, Chiradeep Roy, Donald Honeycutt, Jeremy Block, Tahrima Rahman, Eric Ragan, Vibhav Gogate

Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI LBW). (2020)

P.2 **Explainable Activity Recognition in Videos**

Chiradeep Roy, Mahesh Shanbhag, Mahsan Nourani, Tahrima Rahman, Samia Kabir, Vibhav Gogate, Nicholas Ruozzi, Eric Ragan

IUI 2nd workshop on Explainable Smart Systems (ExSS, now TExSS). (2019)

P.1 **Explainable Activity Recognition in Videos using Dynamic Cutset Networks**

Chiradeep Roy, Mahsan Nourani, Mahesh Shanbhag, Samia Kabir, Tahrima Rahman, Eric Ragan, Nicholas Ruozzi, Vibhav Gogate

3rd Workshop of Tractable Probabilistic Modeling (TPM 2019). (2019)

Pre-prints

A.1 **Don't Explain without Verifying Veracity: An Evaluation of Explainable AI with Video Activity Recognition**

Mahsan Nourani, Chiradeep Roy, Tahrima Rahman, Eric Ragan, Nicholas Ruozzi, Vibhav Gogate

arXiv:2005.02335 (2020)

Talks and Presentations

User Profiling in Human-AI Design: An Empirical Case Study of Anchoring Bias, Individual Differences, and AI Attitudes

2024 AAAI Conference on Human Computation and Crowdsourcing (HCOMP)

DETOXER: A Visual Debugging Tool with Multi-Scope Explanations for Temporal Multi-Label Classification

2024 IEEE Visualization & Visual Analytics Conference (VIS) — Invited Talk

Shadows of the Past: The Effects of User's Past Experiences and Expectations on Human-AI Partnership

2023 University of Florida Ph.D. Dissertation Defense

2022 IEEE Visualization & Visual Analytics Conference (VIS), Doctoral Colloquium — Invited Talk

2022 University of Florida Dissertation Proposal

Beware of the Biases: The Role of User Biases in Explainable AI Systems

2024 The Roux Institute at Northeastern University — Invited Talk

2021 Microsoft Research — Invited Talk

2021 Visualization Summer Camp — Invited Talk

The Effects of Predicting and Explaining People's Errors on Their Predictions

2021 Intern Tea Talk, Microsoft Research

Anchoring Bias Affects Mental Model Formation and User Reliance in Explainable AI Systems

2021 ACM Conference on Intelligent User Interfaces (IUI)

2021 DARPA eXplainable AI (XAI) Program Workshop

2020 University of Florida affiliated Virtual CHI

Splitstreams: A Visual Metaphor for Evolving Hierarchies

2020 IEEE Visualization & Visual Analytics Conference (VIS), Co-presented

The Role of Domain Expertise in User Trust and The Impact of First Impressions with Intelligent Systems

2020   AAAI Conference on Human Computation and Crowdsourcing (HCOMP)

The effects of Explanation Meaningfulness and Veracity on Intelligent System Usage

2019   The UFII Student Data Analysis Seminar (SDAS) — 📇 Invited Talk
2019   AAAI Conference on Human Computation and Crowdsourcing (HCOMP)

Teaching Experience

Guest Lecturer: Human-Computer Interactions (CEN 4721)

University of Florida — Spring 2021, Spring 2022

Lecture on introduction to Human-Centered AI and Explainable AI

Teaching Assistant: Introduction to Computer Systems and Programming (C)

University of Tehran — Fall 2015

Project Chief TA and Lab Coordinator. Supervised 10 TAs and over 220 students.

Teaching Assistant: Advanced Programming (C++)

University of Tehran — Fall 2014, Spring 2015

HW desiner and held extra-curricular lectures.

Teaching Assistant: Data Structures and Algorithms (Java)

University of Tehran — Spring 2015, Fall 2015

HW desiner and held extra-curricular lectures.

Grader: Probability and Statistics

University of Tehran — Fall 2015

Supervised Mentees and Students

Current Ph.D. Students

2024 — Present   **Shira Michel,** Khoury College of Computer Science

2024 — Present   **Aditi Krishna,** Khoury College of Computer Science

2024 — Present   **Xinyi Liu,** Khoury College of Computer Science

Undergraduate Researchers and Co-ops

Summer & Fall 2024   **Lien Nguyen,** Computer Science BSc. student at Northeastern University
Undergraduate Co-op researcher

Summer 2019   **Ezekiel Ajayi,** Computer Engineering BE. student at Northeastern University
Undergraduate Summer REU (NSF's program, Research Experience for Undergraduates).

Ph.D. Dissertation Committee

2023 — present   **Mallak Alkhathlan,** Computer Science PhD student at Worcester Polytechnic Institute (WPI)
External Dissertation Committee (Chairs: Elke Rundensteiner & Lane Harrison)

Other Research Mentoring

2019 — 2021   **Donald Honeycutt,** Ph.D. student at University of Florida
Mentored junior PhD student as senior PhD.

2019 — 2021   **Jeremy Block,** Ph.D. student at University of Florida
Mentored junior PhD student as senior PhD.

Service Activities

Organizer

IEEE VIS Workshop on evaluation and BEyond - methodoLogIcal approaches for Visualization (**BELIV**) — 2024

IEEE VIS Workshop on TRust and EXpertise in Visualization (**TREX**) — 2022, 2021, 2020

University of Florida Affiliated Virtual CHI (conference cancelled due to COVID) — 2020

Program Committee

AAAI Conference on Human Computation & Crowdsourcing (**AAAI HCOMP**) — 2024

IEEE VIS Workshop on evaluation and BEyond - methodoLogIcal approaches for Visualization (**BELIV**) — 2024

ACM Conference on Fairness, Accountability, and Transparency (**ACM FAccT**) — 2023

IEEE VIS Workshop on TRust and EXpertise in Visualization (**TREX**) — 2022, 2021, 2020

ACM CHI workshop on Human-Centered Explainable AI (**HCXAI**) — 2022

NeurIPS workshop on Human-Centered AI (**HCAI**) — 2022

Reviewer

IEEE Transactions on Visualization and Computer Graphics (**IEEE TVCG**) — 2022, 2021

ACM Conference on Computer-Supported Cooperative Work And Social Computing (**ACM CSCW**) — 2023

IEEE Visualization and Visual Analytics Conference (**IEEE VIS**) — 2022, 2021

ACM Conference on Human Factors in Computing Systems (**ACM CHI**) — Every year since 2021

ACM Interaction Design and Children Conference (**ACM IDC**) — 2023

Proceedings of the National Academy of Sciences of the United States of America (**PNAS**) — 2024

Workshop on Visualization for AI Explainability (**VISxAI**) — 2021

Volunteer Experience

October 2021   **Student Volunteer**
IEEE Visualization & Visual Analytics Conference, Remote

2021, 2020, 2019   **Student Volunteer**
Prospective PhD stduent visit weekend, University of Florida

November 2019   **Event Coordinator**
CodeIT Day Event (CS programming workshop for underpriviledged K12 students), Belle Glade, Fl

Summer 2019   **Graduate Mentor and Coordinator**
NSF IMHCI-REU Program, University of Florida

2016   **Journalist**
ACM Student Chapter F1 Magazine, University of Tehran

2014 — 2017   **Student Body & Member**
University of Tehran Game Club Student Chapter, University of Tehran