Mahsan Nourani

HUMAN-COMPUTER INTERACTION · HUMAN-CENTERED AI/XAI · VISUAL ANALYTICS

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Education

University of Florida *Gainesville, Florida*

PH.D. STUDENT IN COMPUTER SCIENCE (EXPECTED: MAY 2022) *Aug 2017 - present*
- GPA: 3.80 / 4.0
- Advised by Dr. Eric D. Ragan

University of Tehran *Tehran, Iran*

B.E. IN INFORMATION TECHNOLOGY (COMPUTER ENGINEERING) *Sep 2012 - June 2017*
- GPA in Major: 3.70 / 4.0
- Advised by Dr. Hadi Moradi

Publications

PEER-REVIEWED CONFERENCE AND JOURNAL PAPERS

- **Mahsan Nourani**, Chiradeep Roy, Jeremy E Block, Donald R Honeycutt, Tahrima Rahman, Eric D Ragan, and Vibhav Gogate. Anchoring bias affects mental models and user reliance in explainable ai systems. In *Proceedings of the 26th International Conference on Intelligent User Interfaces (IUI)*, 2021 (to appear)

- **Mahsan Nourani**, Joanie T. King, and Eric D. Ragan. The role of domain expertise in user trust and the impact of first impressions with intelligent systems. In *Eighth AAAI Conference on Human Computation and Crowdsourcing (HCOMP)*, 2020

- Donald R. Honeycutt, **Mahsan Nourani**, and Eric D. Ragan. Soliciting human-in-the-loop user feedback for interactive machine learning reduces user trust and impressions of model accuracy. In *Eighth AAAI Conference on Human Computation and Crowdsourcing (HCOMP)*, 2020

- Qing Li, Sharon Lynn Chu, Nanjie Rao, and **Mahsan Nourani**. Understanding the effects of explanation types and user motivations on movie recommender system use. In *Eighth AAAI Conference on Human Computation and Crowdsourcing (HCOMP)*, 2020

- Fabian Bolte, **Mahsan Nourani**, Eric D Ragan, and Stefan Bruckner. Splitstreams: A visual metaphor for evolving hierarchies. In *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 2020

- **Mahsan Nourani**, Samia Kabir, Sina Mohseni, and Eric D Ragan. The effects of meaningful and meaningless explanations on trust and perceived system accuracy in intelligent systems. In *Proceedings of the AAAI Conference on Human Computation and Crowdsourcing*, volume 7, pages 97–105, 2019

WORKSHOP PAPERS, EXTENDED ABSTRACTS, AND PRESENTATIONS

- **Mahsan Nourani**, Donald R Honeycutt, Jeremy E Block, Chiradeep Roy, Tahrima Rahman, Eric D Ragan, and Vibhav Gogate. Investigating the importance of first impressions and explainable ai with interactive video analysis. In *CHI '20 Extended Abstracts, Honolulu, HI, USA.*, 2020

- Chiradeep Roy, Mahesh Shanbhag, **Mahsan Nourani**, Tahrima Rahman, Samia Kabir, Vibhav Gogate, Nicholas Ruozzi, and Eric D Ragan. Explainable activity recognition in videos. In *IUI Workshops*, 2019

Notable Research Projects

eXplainable Artificial Intelligence (XAI) *Gainesville, Florida*

AUG. 2017 - PRESENT (DARPA XAI GRANT)
- (WIP) Created a tool for the **global visualization** and debugging of a DNN to study the effectiveness of various **explanation scopes**.
- Created web-based interactive systems for an **explainable** video activity recognition model.
- Conducted **controlled experiments** and A/B testing to study user behaviours and **mental models**.
- Studied explanation presence, veracity, and first impressions on user mental models, **task performance**, and **reliance**.
- Found strong correlations between explanation meaningfulness, **user trust**, and perception of accuracy.
- Studied the interplay between explanations, user **cognitive biases**, user trust, and deception in explainable AI/ML systems.

Trust and Expertise in Intelligent Systems *Gainesville, Florida*

JAN. 2019 - PRESENT
- Studied the effects of **interpretable models** and visualizations on trust in AI/ML systems.
- Studied how **domain expertise** affects user behaviours, such as trust, user mental models, and cognitive biases in decision-support systems.
- Designed and conducted user experiments to study impression formations and **trust calibration** of experts in automated systems.

Analytical Provenance Visualization & Segmentation
MAY 2019 - PRESENT
Gainesville, Florida

- Conducted and designed a controlled **behavioral user study** to understand how humans summarize analytical provenance data.
- **Mentored** a student through the NSF REU (Research Experience for Undergraduates) program for **prototyping a visual interface** for this project.

Teaching Turn Taking Skill to Autistic Children
OCT. 2016 - AUG. 2017
Tehran,Iran

- B.E. thesis project. Supervisor: Dr. Hadi Moradi.
- Developed and designed a video game aimed to help children with Autism disorder learn turn-taking skill in social situations.

Presentations

IEEE Visualization and Visual Analytics Conference
OCTOBER 2020
Virtual, Earth

- Co-presented journal paper, " *Splitstreams: A Visual Metaphor for Evolving Hierarchies*"

The Eighth AAAI Conference on Human Computation and Crowdsourcing (HCOMP)
OCTOBER 2020
Virtual, Earth

- Presented full paper, "*The Role of Domain Expertise in User Trust and the Impact of First Impressions with Intelligent Systems*"

University of Florida affiliated Virtual CHI
MAY 2020
Gainesville, FLorida

- Presented the CHI 2020 short abstract, "*Investigating the Importance of First Impressions and Explainable AI with Interactive Video Analysis*"

The UFII Student Data Analysis Seminar (SDAS)
OCTOBER 2019
Gainesville, FLorida

- Presented full paper, "*The Effects of Explanation Meaningfulness on Trust and Perception of Accuracy*"
- Presented follow-up work and current research focus and projects and the results of these studies.

The Seventh AAAI Conference on Human Computation and Crowdsourcing (HCOMP)
OCTOBER 2019
Skamania Lodge, Washington

- Presented full paper, "*The Effects of Meaningful and Meaningless Explanations on Trust and Perception of Accuracy*"

Service Activities

2020	**Organizer and chair**, IEEE Workshop on TRust and EXpertise in Visual Analytics (**TREX**). *# viewers: > 350, # talks: 8*	
2020	**Organizer and chair**, University of Florida affiliated Virtual CHI Presentation Day. *# presentations: 9*	
2020	**Program Committee**, IEEE VIS TREX Workshop.	
2020	**Reviewer**, ACM CHI 2021, VISxAI Workshop (IEEE VIS).	

Honors & Awards

2020	**Awardee**, Outstanding Achievement Award, Herbert Wertheim College of Engineering, UF - (Top 9%)	*Gainesville, Florida*
2016	**Winner**, 4th Iran Game Developers Cup (team participation).	*Kashan, Iran*
2012	**Ranked 542th**, Nationwide University Entrance Exam in Mathematics and Physics-(Top 0.1%).	*Tehran, Iran*
2012	**Ranked 242th**, Nationwide University Entrance Exam in English and Foreign Languages-(Top 0.4%).	*Tehran, Iran*
2011	**Semi-finalist**, National Literature Olympiad.	*Tehran, Iran*
2009	**Winner**, Best Junior Literary and Cultural Researcher in Tehran, Ministry of Education.	*Tehran, Iran*

Volunteer Experiences

Nov. 2019	**Event Coordinator**, CodeIt Day Event.	*Belle Glade, Florida*
May 2019	**Mentor**, NSF IMHCI-REU Program.	*Gainesville, Florida*
2016	**Journalist & Interviewer**, ACM Student Chapter F1 Magazine.	*Tehran, Iran*
[2014-17]	**Student Body & Member**, Game Club Student Chapter.	*Tehran, Iran*

Technical Skills

Languages	C/C++, Python, Java, C#, Ruby
Web and Visualization	HTML/CSS, JavaScript, D3.js, Bootstrap, React.js, Material-UI
Machine Learning	Scikit-Learn, Matplotlib, OpenCV, PyTorch, Jupyter notebook, Weka, NVIDIA DIGITS
HCI/UX Research	User-centered design, Controlled user study, Empirical methods & statistical analysis, Usability testing
Data Analysis	R, MaxQDA, Miro
Technology	Ubuntu, Linux/Unix, Shell Script, MacOS, Windows
Database	Microsoft SQL Server, MySQL, PostgreSQL
Miscellaneous	Adobe Illustrator, Adobe Photoshop, LaTeX, Amazon MTurk