

Sina Mohseni

USER EXPERIENCE · CROWDSOURCING · VISUAL ANALYTICS

Langford Center, B208, 3137 TAMU, College Station, Texas 77840

☎ (+1) 541-745-8849 | ✉ sina.mohseni@tamu.edu | 🏠 people.tamu.edu/sina.mohseni/ | 📱 sinamohseni | 🌐 sina-mohseni

Objective

Talented computer science researcher with 7+ years of experience in research, patents, publications, and 3+ years of experience in Human Computer Interactions, Data Visualization, and crowdsourcing design. Passionate to use my technical and leadership skills to run innovative projects as a computer science research scientist. Seeking a research-oriented internship for Summer 2019 and full-time position for December 2019.

Professional Experience

Research Intern at Bosch Research and Technology Center

Pittsburgh, Pennsylvania

"INTEGRATING CROWD AND AI FOR LIDAR DATA ANNOTATION IN SELF-DRIVING CARS APPLICATION", CROWD-AI PROJECT.

May, 2018 - Aug. 2018

- Implemented a 3D LiDAR data annotation tool for crowdworkers to create training data for self-driving car applications. (Three.js)
- Designed and implemented micro task and work flows for LiDAR data annotation in Amazon Mechanical Turk. (MongoDB, Flask)
- Initiated micro-payments model and created an expert-pool of mTurk workers to increase user engagement and data quality.

Graduate Research Assistant at Texas A&M University

College Station, Texas

"EXPLAINABLE ARTIFICIAL INTELLIGENCE", DARPA XAI GRANT

Aug. 2017 - Present

- Designed a user centered interpretable machine learning interface for our fake news detection system. (D3.js, Flask)
- Proposed *human judgment evaluation benchmark* for explanations from interpretable machine learning. (D3.js, OpenCV, LIME)

"ANALYTIC PROVENANCE VISUALIZATION AND SEGMENTATION", NSF RESEARCH GRANT.

Sept. 2016 - Present

- Designed a user interaction clustering and visualization method for provenance retrieval. (D3.js, Gensim)
- Designed a provenance visualization system to segment user work by user interaction processing. (D3.js, Scikit-learn, Gensim)

Graduate Research Assistant at Oregon State University

Corvallis, Oregon

"SHRINKAGE FACTOR CAD AUTOMATION TOOLBOX", CENTER FOR E-DESIGN GRANT

Jan. 2014 - Aug. 2015

- Implemented a design automation toolbox to apply investment casting shrinkage factors at Design Engineering Lab with Prof. Matt Campbell. (Parasolid kernel, Solidworks)

Graduate Research Assistant at Babol Noshirvani University

Babol, Iran

"COMPETITION OVER RESOURCE: A NEW METAHEURISTIC OPTIMIZATION ALGORITHM", DIGITAL SIGNAL PROCESSING LAB

Jan. 2014 - Aug. 2015

- Designed a new meta-heuristic optimization algorithm based on competitive behavior of animal groups (COR) and later used in array antenna design, resulting in five peer-reviewed papers. (Matlab)

"FACIAL EXPRESSION RECOGNITION", DIGITAL SIGNAL PROCESSING LAB

Sept. 2013 - Dec. 2014

- Developed a facial expression recognition algorithm to improve recognition accuracy by leveraging anatomical structure of human face. (Matlab)

Technical Skills

Languages:

Python, JavaScript, HTML, CSS, C++, C#, MATLAB.

Machine Learning:

Scikit-learn, OpenCV, SpaCy, Gensim, LIME, Keras.

Visualization and UI:

D3.js, Three.js, Bootstrap

Crowdsourcing:

mTurk-API, Workflow Design, Micro Task Design, User Behavior Analysis, Micro-payment Models, Task Expert-pool.

User Experience and HCI:

User Centered Design, Usability Test, Controlled Experiment Design, Empirical Methods and Statistical Analysis, Interaction Logs Analysis.

Education

Texas A&M University

COMPUTER SCIENCE PH.D. STUDENT

- Interpretable Machine Learning, Visual Analytics, and Human-computer Interactions - working with Dr. Eric Ragan

College Station, Texas

Sept. 2016 - PRESENT

Babol Noshirvani University (NUT)

M.SC. IN ELECTRONIC ENGINEERING

- Thesis: Facial Expression Recognition Based on Anatomy of Face

Babol, Iran

Sept. 2012 - Dec 2014

University of Isfahan

B.SC. IN ELECTRICAL AND ELECTRONIC ENGINEERING

Isfahan, Iran

Sept. 2007 - Dec 2011

Patents

Insulator Leakage Current Monitoring and Alarm System in Power Transmission Systems

NATIONAL PATENT NO.: IRP/021579

Iran

Summer 2015

Blood Pressure Monitor Calibrating Device and Corresponding Method

INTERNATIONAL APPLICATION NO.: PCT/EP2012/070412

Euro-PCT

Spring 2010

Publications

Journal Papers

- [1] Gholami, R., Zakeri, B., Abedi, H., & **Mohseni, S.** (2016). Reduction of Dynamic Range Ratio through Competition Over Resources to synthesize planar array antennas. AEU-International Journal of Electronics and Communications, 70(11), 1522-1531.

Selected Conference Papers

- [1] **Mohseni, S.**, Pena, A., Ragan, D., E., (2017). ProvThreads: Analytic Provenance Visualization and Segmentation. Poster Presentation at IEEE Visual Analytics Science and Technology (VAST) 2017.
- [2] **Mohseni, S.**, Hu, B., Ragan, E.. Are We in Good Hands? Evaluating Model Reliability with Machine Learning Explanations. Submitted to IUI 2018.
- [3] **Mohseni, S.**, Ragan, E.. A Survey of Evaluation Methods and Measures for Interpretable Machine Learning. Submitted to CHI 2018.
- [4] Nourani, M., **Mohseni, S.**, Ragan, E.. Trusting What We Don't Understand: How Explanations Affect Trust and Perceived Accuracy in Interpretable Machine Learning and Intelligent Systems. Submitted to CHI 2018.
- [5] Linder R., **Mohseni, S.**, Ragan, E.. How Level of Explanation Detail Affects Human Performance in Interpretable Intelligent Systems: A Study on Explainable Fake News Detection. Submitted to IUI 2018.
- [6] **Mohseni, S.**, Zarei, N., and Ramazani, S.. "Facial expression recognition using anatomy based facial graph." Systems, Man and Cybernetics (SMC), 2014 IEEE International Conference on. IEEE, 2014.

Honors & Awards

Research Grant (PI), Golestan Province Power Distribution Co.

"INSULATOR LEAKAGE CURRENT MONITORING SYSTEM IN POWER TRANSMISSION SYSTEMS"

Gorgan, Iran

Oct. 2014 - Aug. 2015

- Developed a creepage current meter device which measures micro ampere current from ceramic power transmission insulators.
- Gained more expertise in proposal writing, project management and problem solving.

Research Grant (Co-PI), Isfahan Province Regional Power Distribution Co.

"STUDY ON EFFECTS OF CFL LAMP ON POWER DISTRIBUTION SYSTEM"

Isfahan, Iran

Mar. 2011 - Sept. 2011

- Researched current harmonic effects on power distribution system by performing harmonic analysis in Matlab.
- Learned proposal writing and project management skills.

Professional Services

Paper Reviewer for ACM CHI 2018

Paper Reviewer for IEEE VIS 2018