

SINA MOHSENI

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EDUCATION

Computer Science Ph.D. Student, **Texas A&M University** , College Station Sept. 2016 - PRESENT
M.Sc. in Electronic Engineering , **Babol Noshirvani University (NUT)** Babol, Iran Sept. 2012 - Dec 2014
B.Sc. in Electrical and Electronic Engineering, **University of Isfahan** Isfahan, Iran Sept. 2007 - Dec 2011

WORK EXPERIENCE

Graduate Research Assistant at Texas A&M University Aug. 2016 - Present

– *“Explainable Artificial Intelligence”* , *DARPA Research Grant*.

- Preparing an online human-grounded *evaluation benchmark* for local explanations generated from text and image interpretable classifiers. (Javascript, Python)
- Designing and performing user studies to evaluate machine learning explanation quality's effect in users trust. (Javascript)
- Designing and performing user studies to evaluate interpretable machine learning's efficacy in real-world cases. (Javascript)
- *“Analytic Provenance Visualization and Segmentation”* , *NSF Research Grant*.
- Designed and implemented a user interaction logs clustering method and visualization for analytic provenance retrieval in text analysis. (D3.js, Gensim, Python)
- Developed a novel segmentation technique and visualization for user interaction segmentation in analytic provenance. (D3.js, Gensim, Python)
- Published an online analytic provenance data set: including user interaction logs and coded data for 24 participants.

Graduate Research Assistant at Oregon State University Jan. 2016 - Aug. 2016

– *“Shrinkage Factor CAD Automation Toolbox”*, *Center for e-Design Grant*

- Implemented a design automation toolbox for CAD kernels which applies shrinkage factors in investment casing at Design Engineering Lab with Prof. Matt Campbell. (C#)

Graduate Teaching Assistant at Oregon State University Sept. 2015 - Dec. 2015

- Grad level Computer Architecture, Department of Computer Science and Engineering

Graduate Research Assistant at Babol Noshirvani University Sept. 2013 - Dec. 2014

- Designed and implemented a new metaheuristic optimization algorithm based on competitive behavior of animal groups. This work was done at Digital Signal Processing Lab and resulted in five peer-reviewed papers. (Matlab)
- Developed a Facial Expression Recognition System Based on Anatomical Structure of Human Face at Digital Signal Processing Lab. Resulted in my MSc. thesis and four peer-reviewed papers. (Matlab)

TECHNICAL SKILLS

Development Languages: Python, JavaScript, R, MATLAB, C++, C#

Machine Learning: SciPy, Scikit-learn, OpenCV, Gensim

Data Visualization: D3.js, ggplot2, Matplotlib

HCI: Contextual Design, Heuristic Analysis, Interaction Logs Analysis, Empirical Methods and Statistical Analysis, Behavioral Data Coding, Think Aloud

PATENTS

Insulator Leakage Current Monitoring and Alarm System in Power transmission Systems Iran

- Iran National Patent, IRP/ 021579

Blood Pressure Monitor Calibrating Device and Corresponding Method

Euro-PCT

- European Patent, Publication Number: WO2014060012 A1

AWARDS

Research Grant (PI) from Golestan Province Power Distribution Co. Oct. 2014 - Aug. 2015

“Insulator Leakage Current Monitoring and Alarm System in Power Transmission Systems”

- Lead engineer on design and execution of project along with our power engineer who conducted several hot-line tests for device accuracy. Gained expertise in project management and problem solving.
- Researched and developed a creepage current meter device which measures micro ampere current from ceramic power transmission insulators. Implemented the overall system with analog differential LNA and digital signal processing.

Research Grant (Co-PI) from Isfahan Province Regional Power Distribution Co. Mar. 2011 - Sept. 2011

“Study on Effects of CFL Lamp on Power Distribution System”

- Lead Researcher execution of project along with a team member who conducted current harmonic data capture for the study. Learned proposal writing and micromanagement skills.
- Researched current harmonic effects on power distribution system. Performed harmonic analysis and simulations for combination of CFL lamps in Matlab.

PUBLICATIONS

Journal Publications

- [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.

Conference Publications

- [1] Abedi, H., Gholami, R., Zakeri, B., & **Mohseni, S.** (2016, September). Competition over resources algorithm and its application for planar array pattern synthesis. In *Telecommunications (IST), 2016 8th International Symposium on* (pp. 432-436). IEEE.
- [2] Faramarzi, M., Tabibzadeh, M., textbfMohseni, S., & Jafari, M. (2016, May). Automatic system for detection critical conditions in overhead lines distribution insulators based on leakage current analysis. In *Industrial and Commercial Power Systems Technical Conference (I&CPS), 2016 IEEE/IAS 52nd* (pp. 1-7). IEEE.
- [3] Mohseni, Sina, Gholamreza Ardeshtir, and Niloofar Zarei. "Facial Expression Recognition Based on Anatomical Structure of Human Face." *Journal of Electrical and Computer Engineering Innovations* 2.2 (2014): 77-83.
- [4] Hassanzadeh, M., Sheikholeslami, A., Ghoreishi, H., Mohseni, S., & Nazari, M. (2015, February). A novel method for current harmonic reduction of CFLs in large number usage. In *Power Electronics, Drives Systems & Technologies Conference (PEDSTC), 2015 6th* (pp. 424-429). IEEE.
- [5] Gholami, R., Mohseni, S., Zakeri, B., & Abedi, H. (2014, October). Driving point impedance restriction in synthesis of linear antenna arrays using competition over resources optimization algorithm. In *Computer and Knowledge Engineering (ICCKE), 2014 4th International eConference on* (pp. 414-419). IEEE.
- [6] Gholami, R., Zakeri, B., Mohseni, S., & Abedi, H. (2014, December). Synthesis of aperiodic linear antenna arrays based on competition over resources optimization. In *Applied Electromagnetics (APACE), 2014 IEEE Asia-Pacific Conference on* (pp. 171-174). IEEE.
- [7] Mohseni, Sina, Niloofar Zarei, and Saba Ramazani. "Facial expression recognition using anatomy based facial graph." *Systems, Man and Cybernetics (SMC), 2014 IEEE International Conference on*. IEEE, 2014.
- [8] Mohseni, S., Gholami, R., Zarei, N., & Zadeh, A. R. (2014, September). Competition over resources: a new optimization algorithm based on animals behavioral ecology. In *Intelligent Networking and Collaborative Systems (INCoS), 2014 International Conference on* (pp. 311-315). IEEE.

- [9] Mohseni, Sina, et al. "Facial Expression Recognition Using Facial Graph." Face and Facial Expression Recognition from Real World Videos: International Workshop, Stockholm, Sweden, August 24, 2014, Revised Selected Papers. Vol. 8912. Springer, 2015.
- [10] Mohseni, Sina, Hussain Montazeri Kordy, and Ramin Ahmadi. "Facial expression recognition using DCT features and neural network based decision tree." ELMAR, 2013 55th International Symposium. IEEE, 2013.
- [11] Mohseni, S., & Roomizadeh, A. (2011, February). Study on periodic and non periodic frequency modulation techniques for EMI suppression in SMPS. In Power Electronics, Drive Systems and Technologies Conference (PEDSTC), 2011 2nd (pp. 615-619). IEEE.

Posters, Abstracts, Presentations

- [1] Mohseni, S., Ragan, D., E.,(2017). Technical Report: Analytic Provenance Dataset, Winter 2017.
- [2] 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.