ALI AHMADVAND

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SUMMARY PhD candidate in Computer Science, under supervision of Dr. Eugene Agichtein. During my master's degree I worked on computer vision and medical image analysis. Currently, I am focusing on the intersection of machine learning and natural language processing.

RESEARCH INTERESTS Query Understanding, Conversational AI

EDUCATION

- **Ph.D. candidate in Computer Science**, Department of Computer Science, Emory University, GA.
- **M.Sc. in Artificial Intelligence & Robotics**, School of Computer Engineering, Iran University of Science and Technology, Tehran, Iran.
- **B.E in Computer Engineering, Software, School of Engineering,** Urmia University, Urmia, Iran.

PUBLICATION

PEER-REVIEWED CONFERENCES / PROCEEDINGS

- **Ali Ahmadvand**, Jason Ingyu Choi, and Eugene Agichtein. "Contextual Dialogue Act Classification for Open-Domain Conversational Agents", In Proceedings of the 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval, pp. 1273-1276. **ACM**, 2019. [Link]
- **Ali Ahmadvand**, Harshita Sahijwani, Jason Ingyu Choi, and Eugene Agichtein. "ConCET: Entity-Aware Topic Classification for Open-Domain Conversational Agents", In proceedings of the 28th ACM International Conference on Information and Knowledge Management (CIKM), **ACM**, 2019. [Link]
- Jason Ingyu Choi, **Ali Ahmadvand,** and Eugene Agichtein. "Offline and Online Satisfaction Prediction in Open-Domain Conversational Systems", In proceedings of the 28th ACM International Conference on Information and Knowledge Management (CIKM), **ACM**, 2019. [Link]
- **Ali Ahmadvand**, Ingyu Choi, Harshita Sahijwani, Justus Schmidt, Mingyang Sun, Sergey Volokhin, Zihao Wang, and Eugene Agichtein. "Emory IrisBot: An Open-Domain Conversational Bot For Personalized Information Access", **Proc. Alexa Prize**, 2018. [Link]
- Wang, Zihao, **Ali Ahmadvand**, Jason Ingyu Choi, Payam Karisani, and Eugene Agichtein. "Emersonbot: Information-focused Conversational AI Emory university at the Alexa Prize 2017 Challenge", **Proc. Alexa Prize**, 2017. [Link]
- **Ali Ahmadvand,** Supreeth Prajwal, Shamim Nemati, Falgun H. Chokshi. "Performance of Deep Convolutional Neural Networks for Classification of Acute Territorial Infarct on Brain MRI: A Pilot Study for Computer Vision in Stroke Neuroimaging", SIIM Scientific Conference on Machine Intelligence in Medical Imaging, September 26-27, 2017. [Link]
- **Ali Ahmadvand**, Mohammadtaghi Hajiali, Rahim Ahmadvand, Mohammad Reza Mosavi. "A Novel Ensemble Based Method for MRI Brain Image Segmentation", International Conference on Knowledge-Based Engineering and Innovation (KBEI), ***IEEE Conference***, 2015. [Link]
- Mohammadtaghi Hajiali, **Ali Ahmadvand**, Mohammad Reza Mosavi, Kamran Shahanaghi. "Estimation of Project Completion Time Using Proper Fuzzy Combination of Regression Methods", International Conference on Knowledge-Based Engineering and Innovation (KBEI), ***IEEE Conference***,2015. [Link]
- **Ali Ahmadvand**, Mohammadtaghi Hajiali, Rahim Ahmadvand, Mohammad R Mosavi. "A Novel LBP Based Method for Invariant Texture Classification", International Conference on Knowledge-Based Engineering and Innovation (KBEI), ***IEEE Conference***, 2015. [Link]

INTERNATIONAL JOURNAL PAPERS

- **Ali Ahmadvand**, Mohamad Reza Daliri, "Invariant Texture Analysis Using Spatial Filter Bank in Multi Resolution Analysis", Image and Vision Computing, ***ELSEVIER***, 2015. [Link]
- **Ali Ahmadvand**, Mohammad Reza Daliri, "Rotation Invariant Texture Classification Using Extended Wavelet Channel Combining and LL Channel Filter Banks", Knowledge-Based Systems, ***ELSEVIER***, 2015. [Link]
- **Ali Ahmadvand**, Mohamad Reza Daliri, "Improving the Runtime of MRF Based Method for MRI Image Segmentation", Applied Mathematics and Computation, ***ELSEVIER***, 2015. [Link]
- **Ali Ahmadvand**, Sahar Yousefi, Mohammad Taghi Manzuri Shalmani, "A Novel Markov Random Field Model Based on Region Adjacency Graph for T1 Magnetic Resonance Imaging Brain Segmentation", International Journal of Imaging Systems and Technology, ***WILEY***, 2017. [Link]
- **Ali Ahmadvand**, Mohamad Reza Daliri, "Supervised Segmentation of MRI Brain Images Using Combination of Multiple Classifiers", Australasian Physical & Engineering Sciences in Medicine, ***SPRINGER***, 2015. [Link]
- **Ali Ahmadvand**, Peyman Kabiri, "Multi Spectral MRI Image Segmentation Using Markov Random Field Model", Signal, Image and Video Processing, ***SPRINGER***, 2014. [Link]
- **Ali Ahmadvand**, Mohammad Reza Daliri, Mohammadtaghi Hajiali, "**DCS-SVM:** A Novel Semi-Automated Method for Human Brain MRI Image Segmentation", Biomedical Engineering / Biomedizinische Technik, ***DE GRUYTER***, 2015. [Link]
- **Ali Ahmadvand,** Mohammad Reza Zahiri, Mohammad Reza Daliri, "Segmentation of Brain MRI Images Using a Proper Combination of DCS Based Methods with MRF", Multimedia Tools and Applications, ***SPRINGER***, 2015. [Link]
- **Ali Ahmadvand**, Mohamad Reza Daliri, "Brain MR Image Segmentation Methods and Applications", OMICS J Radiology, ***OMICS GROUP***, 2014. [Link]
- **Ali Ahmadvand**, Mohamad Reza Daliri, "A Review on Texture Analysis Methods in Biomedical Image Processing", OMICS J Radiology, ***OMICS GROUP***, 2016. [Link]
- Jaber Zafari, Fatemeh Javani Jouni, **Ali Ahmadvand**, Parviz Abdolmaleki, Malihe Soodi, Rezvan Zendehdel. "Investigation of Genes Expression in Differentiated Cells Derived Bone Marrow Stem Cells During Bone Morphogenetic Protein-4 Treatments with Fourier Transform Infrared Spectroscopy", Spectrochimica Acta Part A: Molecular And Biomolecular Spectroscopy, ***ELSEVIER***, 2015. [Link]

VOCATIONAL

Research Scientist Intern, The Home Depot Inc. (Summer 2019)

- Query Understanding
- E-Commerce Search Engine
- Intent Clustering and Classification

R&D Engineer, Sharif University (summer 2015 – summer 2016)

- Machine Learning
- Advanced signal processing algorithms in Visual C++ with Intel® Math Kernel Library (MKL) and Intel® Integrated Performance Primitives (IPP).

TEACHING EXPERIENCE

Introduction to Computer Science II, Emory University, Fall 2016 – Fall 2017
Java Programming

Deep Learning, Emory University, Spring 2016
Deep FNNs, CNNs, and RNNs Models.

HIGHLIGHTED MEMBERSHIPS

- Member of ***Emory Emerson Bot*** team, was among 18 teams selected from around the world for the Amazon Alexa Prize 2017. Final Rank: ***5th*** [WebSite]
- Member of ***Emory Iris Bot*** team, was among top 8 teams selected from around the world for the Amazon Alexa Prize 2018. Final Rank: ***4th*** [WebSite]

- Member of ***Emora Bot*** team, is among top 8 teams selected from around the world for the Amazon Alexa Prize 2019. [WebSite]

RESEARCH EXPERIENCE

Research Assistant *at* Emory Intelligent Information Access Laboratory (IR Lab)
Under Supervision of Dr. Eugene Agichtein, projects developed:

- Alexa Prize 2017, 2018, and 2019
- Topic and Intent Classification for Conversational Bots
- Smart Topic Suggestion for Conversational Bots
- User Satisfaction Prediction in Conversational Bots
- Structural Question Answering
- Transfer Learning in Question Answering

Research Assistant, *The Nemati Lab*
Under Supervision of Dr. Shamim Nemati, projects developed:

- Developing Deep Learning algorithms for Biomedical Image Analysis

Research Assistant, *Cognitive Neurobiology Laboratory (CogNeuroLab)*
Under Supervision of Prof. Mohammad Reza Daliri, projects developed:

- Developing Texture Analysis Methods
- Developing MRI brain image Analysis Methods

Research Assistant, Tarbiat Modares and Shahid Beheshti Universities, Tehran, Iran
Under Supervision of Dr. Zendehdel and Dr. Abdolmaleki, projects developed:

- Collaboration on investigation of genes expression with Department of Biophysics and Occupational Hygiene at Tarbiat Modares and Shahid Beheshti University of Medical Sciences.

Research Assistant, *Intelligent Automation Lab*
Under Supervision of Dr. Kabiri, projects developed:

- Developing MRF Based methods for human brain image segmentation

HONORS & AWARDS

- Top 0.3% among 25,000 students participating in the nationwide university entrance exam for M.Sc. degree in Computer Engineering, Iran, 2010.
- Ranked 2nd in terms of GPA among M.Sc. students in major of Artificial Intelligence & Robotics in Iran University of Science & Technology, Class of 2011.
- 5th place worldwide in Amazon Alexa Prize 2017 for advancing Conversational AI research and technology.
- 4th place worldwide in Amazon Alexa Prize 2018 for advancing Conversational AI research and technology.

SKILLS

Languages

- Persian (Native)
- Lurish (Mother Tongue)
- English (Full Professional Proficiency)
- Arabic (Basic Reading Proficiency)

Programing Languages

- C++, Python, MATLAB, and Java.

Programing Libraries

- Tensorflow (Python), Tflearn (Python), Keras (Python), MatConvNet (MATLAB), Integrated Performance Primitives Library (C++), Math Kernel Library (C++), and OpenCV (Python and C++).