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Omid Askarisichani

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Education

Ph.D. - Computer Science (GPA: 4.0/4.0), UC Santa Barbara, California — Expected: Sept 2020
M.Sc. - Artificial Intelligence (GPA: 4.0/4.0), Sharif University of Technology, Tehran, Iran — Feb 2014
B.Sc. - Software Engineering (GPA: 3.86/4.0), University of Isfahan, Isfahan, Iran — Jul 2011

Publications

Published:

1. Dang, X-H, **O. Askarisichani**, Singh. AK., " **Discovery of Varying Predictive Features in Multitask Learning with Smooth SVM,**" *Big Data IEEE Conference*, Seattle, US, 2018.
2. Amelkin V., **O. Askarisichani**, Y. Kim J, Malone T.W, Singh A.K, " **Dynamics of Collective Performance in Collaboration Networks**" *Journal of PLOS ONE*, 2018.
3. **O. Askarisichani**, Ng J, Bullo F, Friedkin NE, Singh AK, Uzzi B. " **Structural Balance Emerges and Explains Performance in Risky Decision-Making,**" *under revision to Journal of Nature Communications*, 2018.
4. **O. Askarisichani**, M. Jalili, " **Inference of Hidden Social Power through Opinion Formation in Complex Networks,**" *Journal of IEEE Transactions on Network Science and Engineering*, (TNSE), Vol. 4, No. 3, Pages 154-164, DOI:10.1109/TNSE.2017.2691405, ISSN:2327-4697, http://ieeexplore.ieee.org/document/7892936/#full-text-section, 2017. **Link** **Git**
5. **O. Askarisichani**, M. Jalili, " **Influence Maximization of Informed Agents in Social Networks,**" *Journal of Applied Mathematics and Computation*, (AMC), Vol. 254, Pages 229-239, 3/1/2015, *Elsevier*, http://www.sciencedirect.com/science/article/pii/S0096300314018001, 2015. **Link** **Git**
6. **O. Askarisichani**, M. Jalili, " **Large-scale Global Optimization through Consensus of Opinions Over Networks,**" *Journal of the Complex Adaptive Systems Modeling*, *Springer*, 1(1):11, 2013. **Link** **Git**
7. M. Jalili, **O. Askarisichani**, Xinghuo Yu " **Optimal pinning controllability of complex networks: Dependence on network structure,**" *Journal of Physical Review E*, (PRE), Vol. 91, No. 1, Page 012803, *American Physical Society*, DOI:10.1103/PhysRevE.91.012803, 2015. **Link** **Git**
8. SM Hill, LM Heiser, T Cokelear, M Unger, D Carlin, Y Zhang, A Sokolov, E Paull, CK Wong, K Graim, A Bivol, H Wang, F Zhu, B Afsari, LV Danilova, AV Favorov, W Lee, D Taylor, HPN-DREAM Consortium (**O. Askarisichani**), GB Mills, JW Gray, M Kellen, T Norman, S Friend, EJ Fertig, Y Guan, M Song, J Stuart, H Koeppl, PT Spellman, G Stolovitzky, J Saez-Rodriguez, and S Mukherjee " **Inferring causal molecular networks: empirical assessment through a community-based effort,** ***Nature Methods***, Feb 2016. **Link** **Git**
9. M. Shahriari, **O. Askarisichani**, J. Gharibshah, M. Jalili, " **Sign prediction in social networks based on users reputation and optimism,** *Journal of Social Network Analysis and Mining*, Vol. 6, No. 1, DOI:10.1007/s13278-016-0401-6, 6:91, *Springer*, 2016. **link**
10. V. Amelkin, **O. Askarisichani**, Y. J. Kim, A. K. Singh, T. W. Malone, " **Dynamics of Collective Performance in Collaboration Networks,**" *XXXVI Sunbelt Conference*, page 6, April 2016. **Link**
11. A. Fatemi, K. Zamanifar, N. Nematbakhsh, **O. Askarisichani**, " **A Team-Based Organizational Model for Adaptive Multi Agent Systems,**" in *3rd International Conference on Agents and Artificial Intelligence*, *ICAART* 2011, *Rome*, *Italy*, Volume 2, No. 297, session 10:30-11:00, 2011. **Link** **Git**
12. A. Gharipour, A. Yousefian, **O. Askarisichani**, "**Clustering Based on Fuzzy Rules and Genetic Algorithm for alpha-Reliability Decision of Asset Classification and Portfolio Selection,**" *Journal of the Asian Economic Review*, Volume 55, No. 1, Pages 47-60, 2013. **Link**

Awards

Awarded **5 Years** Fully-Funded Scholarship & **Computer Science Fellowship** in UC Santa Barbara, Sept 2015.
Ranked $\mathbf{1}_{st}$ in Bio-Informatics HPN-DREAM Consortium Breast Cancer Network Inference Challenge, Feb 2014.
Awarded a Fully-Funded **Research Scholarship** of Max Planck Institute, Tüebingen, Germany, Sept 2013.
Ranked $\mathbf{1}_{st}$ in B.Sc. within a class of 47, Department of Computer Engineering, Jul 2011.
Ranked $\mathbf{4}_{th}$ in M.Sc. within a class of 56, Department of Computer Engineering, Feb 2013.
Awarded **Fellowship of Exceptional Talents** for M.Sc. Program in Sharif University of Technology, Sept 2011.

Scientific Activities

Reviewer for: Journal of ACM Transactions on Knowledge Discovery from Data — 2014 - Present
Reviewer for: Journal of Complex Networks, Oxford University Press — 2013 - Present
Reviewer for: Association for the Advancement of Artificial Intelligence (AAAI) Conference — 2018 - Present
Reviewer for: International World Wide Web Conference (WWW) — 2018 - Present
Reviewer for: ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) — 2017 - Present
Founder of: Java Agent Development Framework (JADE) Facebook Page — 2010 - Present *Elected President:*Scientific Society of University of Isfahan Computer Science Students — 2013
*Researcher in:*Isfahan Math House (IMH) — 2010 - 2011

Skills

Data Analysis: Machine learning background, Fluent with many python packages such as Scikit-Learn, TensorFlow, Keras, Pandas, Networkx, Theano, Caffee, and dataminging packages such as JAVA programming with WEKA.
Deep Learning: Deep Reinforcement Learning, Deep Q-learning (DQN), online learning, mutli armed bandits, self learning agents in computer games, Deep Convolutional Networks (CNN), recurrent neural networks (RNN), Long Short Term Memory Networks (LSTM), GRU, Generative Adversarial Networks (GAN), Restricted Boltzman Machines (RBM), Auto-encoders, Echo-state networks, and Hopfield networks.
Optimization: MATLAB CVX, Mosek, Gurobi.
Cloud and Parallel Servers: Highly experienced in developing web services with JAVA and Ruby on Rails on Amazon AWS, Google Cloud Platform, Google App Engine.
Programming Languages: Python, JAVA, C++, C#, MATLAB, C, Ruby, SQL, PL/SQL, T-SQL, ASP, PHP, JSP, Prolog, Visual Basic, Pascal, R.
Database Management Systems (DBMS): Oracle, Microsoft SQL Server, PostgreSQL, MySQL.

Work Experience

- **Software Engineer Intern**
  Google, Inc., CA (upcoming) Jun 2019 - Sept 2019
  - Applying deep machine learning models on Google Maps.
- **Software Engineer Intern**
  Google, Inc., CA Jun 2018 - Sept 2018
  - Developed tensorlift: deep machine learning model predicting targeted users' search behaviour in team Lift, Google Ads.
  - Increased the speed of an old modeling technique by the factor of 3.
  - Conducted research about streaming model for counterfactual prediction.
- **Research Assistant**
  University of California at Santa Barbara, CA Sept 2015 – Present
  - Collaborating with a group of 18 researchers and PIs from different universities on a big data-driven project under Multidisciplinary University Research Initiative (MURI) grant
  - Implementing codes with C++, Python and MATLAB to analyze social datasets and gaining insights into the dynamics of team formation, evolution and optimization both mathematically and experimentally
- **Senior Software Engineer**
  Hekmat Iranian Bank, Tehran, Iran Jan 2015 - Aug 2015
  - Analyzed a database of 5 years transactions of half of million of customers to predict potential risks for bank
  - Formed and managed a team of developers to build a software for computing liquidity risk, credit risk and clustering customers to predict their behavior in terms of their requested loans
  - Used Kernel density estimation and fuzzy c-means for clustering, different types of methods such as random forests and decorate with j48 decision tree for classification, correlation-based feature selection methods, LLE and LDA method
  - Implemented the software using JavaFX, WEKA, Hibernate, Persistence, Oracle Database (PL/SQL)
  - Used OLAP data cube technology in order to cache required information for computing queries instantly in a large Oracle data-warehouse
- **Researcher**
  Max Planck Institute for Intelligent Systems, Empirical Inference Department, Tüebingen, Germany Sept 2013 - Jan 2014
  - Worked on Memetracker network with 96 million nodes and Twitter with more than 476 million tweets, to mathematically model information cascades
  - Understood other developers' C++ implemented codes and developed them to handle the proposed algorithm in C++ and MATLAB
  - Developed a new type of Trie data structure for matching millions of strings over half of millions of tweet contents in a very limited amount of time
  - Developed Stanford Network Analysis Platform (SNAP) toolbox using C++ and learned how to execute parallel codes efficiently on Oracle Grid Engine server
  - Developed MATLAB codes to optimize a convex function using MATLAB CVX toolbox & Mosek.
- **Intern**
  International Systems Engineering and Automation Company (IRISA) Company, Isfahan, Iran Jun 2011 - Sept 2012
  - Designed and developed a part of Oracle database-based Enterprise Resource Planning software. Utilized Java Applet, Oracle Forms and PL/SQL Package Programming
  - Also developed a plug-in that automated the query generation for mathematical formula computation using PL/SQL development and Oracle Form graphical user
- **Database Consultant**
  Rena Technical Services Company, Karaj, Iran Jul 2011 - Oct 2011
  - Read and understood an implemented Microsoft SQL Server 2000-based software
  - Consulted the maintenance group for debugging an existing issue in the security of database

Notable Projects

- Image classification with deep transfer learning **Git**
  Developer 2016
  - Using Google Inception deep convolutional neural network in TensorFlow
  - Clustering new unseen pictures which are structurally different than trained ImageNet pictures using transfer learning idea
- Adaptive Multi Agent System Toolbox **Git**
  Software Designer and Developer 2009 – 2011
  - Learned agent-oriented programming and developed a distributed system with more than one million concurrent agents, message passing ability and graphically representation of their movement and task handling
  - Simulated a robocup rescue system and implemented a toolbox for attribute-based team cooperation organizational modeling
  - Used JADE for multi-thread programming, Swing, JFrame for graphical user interface and reporting service
- Software for Traffic Police Law Enforcement Device
  Software Designer and Developer 2008 – 2009
  - Implemented a driver and graphical user interface for the device with C#
  - This project won a silver medal in IENA, International Exhibition " Ideas-Inventions-Novelties", Nov 5-8, 2009, NÜRNBERG, Germany
  - Also won silver medal in Geneva Inventions, Apr 21-25, 2010, Geneva, Switzerland
- Multi Agent System for City Traffic and Routing Simulation **Git**
  Software Designer and Developer 2010 – 2011
  - Designed and developed a parallel multi agent system software with JAVA, JFrame and JADE framework for modeling a city traffic system
  - Simulated cars, GPS property and intelligent traffic lights with an online graphical user interface exhibiting traffic flow and applied various routing algorithms using knowledge from environment
- Real Estate Management Software **Git**
  Software Designer and Developer 2009
  - Developed in C# using Microsoft WPF, SQL Server 2008 database and Entity Framework
  - Implemented an advanced online query generator to flexibly change the number of constraints in each query to efficiently perform a deepening search in huge database of properties, lands and homes
- Service-Oriented Recommender System Software with Linked-Data Technology **Git**
  Software Designer and Developer 2010
  - Developed in C# using Microsoft WCF for service-oriented programming, Microsoft WPF
  - Implemented a linked-data database using dotNetRDF and SPARQL

References

- **Ambuj K. Singh**, *Professor in Computer Science Department, UCSB*, (805) 893 3236, office: 3119 Harold Frank Hall, **ambuj@cs.ucsb.edu**
- **Mahdi Jalili, PhD**, *ARC DECRA Fellow, Vice-Chancellor's Research Fellow School of Engineering(Electrical and Computer Engineering), RMIT University, Building 10, Level 10, Room 17, GPO Box 2476, Melbourne VIC 3001, Australia*, **mahdi.jalili@rmit.edu.au**

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