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Omid Askarisichani

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Education

Ph.D. - Computer Science (GPA: 3.97/4.0), UC Santa Barbara, California, USA	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

Selected Publications

1. **O. Askarisichani**, JN Lane, F Bullo, NE Friedkin, AK Singh, B Uzzi, **"Structural balance emerges and explains performance in risky decision-making,"** *Journal of Nature Communications* 10, 2019.   **Link News Git**

2. XH Dang, **O Askarisichani**, AK Singh, **"Discovery of Varying Predictive Features in Multitask Learning with Smooth SVM,"** *BigData IEEE* Conference, Seatle, US, 2018.

3. V Amelkin, **O Askarisichani**, YJ Kim, TW Malone, AK Singh, **"Dynamics of Collective Performance in Collaboration Networks,"** *Journal of PLOS ONE*, 13(10): e0204547, 2018.   **Link News**

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, P. 154-164, 2017.

5. **"Inferring causal molecular networks: empirical assessment through a community-based effort,"** ***Nature Methods***, Feb 2016.   **Link Git**

6. 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*, 6, 91 *Springer*, 2016.

7. M. Jalili, **O. AskariSichani**, Xinghuo Yu **"Optimal pinning controllability of complex networks: Dependence on network structure,"** *Journal of Physical Review E*, (PRE), 2015.   **Link Git**

8. **O AskariSichani**, M Jalili **"Influence Maximization of Informed Agents in Social Networks,"** *Journal of Applied Mathematics and Computation*, (AMC), 2015.   **Link Git**

9. **O AskariSichani**, M Jalili **"Large-scale Global Optimization through Consensus of Opinions Over Networks,"** *Journal of the Complex Adaptive Systems Modeling*, *Springer*, 2013.   **Link Git**

10. A Fatemi, K Zamanifar, N Nematbakhsh, **O Askarisichani** **"A Team-Based Organizational Model for Adaptive Multi Agent Systems,"** *ICAART - Proceedings of the 3rd International Conference on Agents and Artificial Intelligence*, 2011.   **Link Git**

Work Experience

- **Research Software Engineer Intern**
  Google, Inc., CA   (upcoming) Jun 2019 - Sept 2019
  - Applied metric learning methods using deep neural networks for a large scale dining recommendation in Google Maps:
  - Led an end to end machine learning project including survey and sampling design, data collection, data cleaning, data analysis, modeling, and developing software engineer production software
  - Applied an spectrum of multiple convex optimization metric learning models to many non-convex deep neural networks model such as dual encoders on a large scale data
  - Applied active learning in data collection to enhance classifiers' area under curve
  - Accelerated the similarity model by decreasing the embedding dimensional using dual encoders on existing embedding vectors with the aid of collected supervised data

- **Software Engineer Intern**
  Google, Inc., Los Angeles, CA   June 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

- **Lead Teaching Assistant**
  University of California at Santa Barbara, CA   Sept 2016 – Sept 2017
  - Teaching pedagogy techniques
  - Training all computer science TAs how to be excellent teachers

- **Researcher / Full-Stack Developer**
  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
  - Developed 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)
- **Researcher**
  Max Planck Institute for Intelligent Systems, Empirical Inference Department, Tüebingen, Germany   Sept 2013 - Jan 2014
  - – Understood other developers' C++ implemented codes and developed them to handle the proposed algorithm for information cascade 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 MATLAB codes to optimize a convex function using MATLAB CVX toolbox & Mosek.
- **Software Engineer 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

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.

Applications: Ads, Bank and financial, Real state, Stock market, Social Networks, Online Games, Communication Networks.

Optimization: MATLAB CVX, Mosek, Gurobi.

Multi Agent Development: Java Agent Development Framework (JADE).

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.

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
- 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

Awards

Awarded **5 Years** Fully-Funded Scholarship & **Computer Science Fellowship** in UC Santa Barbara, Sept 2015.

Ranked 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 1_{st} in B.Sc. within a class of 47, Department of Computer Engineering, Jul 2011.

Ranked 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: AAAI conference — 2016 - Present

Reviewer for: KDD conference — 2016 - present