

# Omid Askari

+1 (805) 886 7101    6520 El Colegio Rd, Apt 2308, Santa Barbara, CA 93106.    [omid55@cs.ucsb.edu](mailto:omid55@cs.ucsb.edu)    [Github](#)    [LinkedIn](#)

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## Objective

To obtain an intern position in industry utilizing my strong programming background and 2 years experiences in software development. Passionate to work in a team on challenging problems related to machine learning.

## Education

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

## Skills

*Programming Languages:* **JAVA**, **C++**, **C#**, **MATLAB**, **C**, **Python**, **SQL**, **PL/SQL**, **T-SQL**, **ASP**, **PHP**, **JSP**, **Prolog**, **Ruby**, **Visual Basic**, **Pascal**, **R**.

*Development Software Packages:* Microsoft .Net, **Windows Presentation Framework (WPF)**, **Windows Communication Foundation (WCF)**, Microsoft Entity Framework, **JavaFX**, **Hibernate**, Java Persistence, Java JFrame, Maven, **Swing**, Applet, REST, JSON, JAX-RS, C++ Graphical Design with **MFC**, Qt, Oracle Development Kit, **Oracle Form**, Android Programming.

*Programming Paradigms:* Object-Oriented Programming, Agent-Oriented Programming, Service-Oriented Programming.

*Subversion Softwares:* **Git**, TortoiseSVN.

*Database Management Systems (DBMS):* **Oracle**, **Microsoft SQL(MSSQL)**, PostgreSQL, MySQL, Microsoft Access.

*Cloud and Parallel Servers:* Google App Engine Programming, Oracle (Sun) Grid Engine.

*Deep Learning, Machine Learning and Datamining:* **Big Data Analysis using Google TensorFlow**, **WEKA in JAVA**, Rapid Miner, Clementine, Theano, Caffe, and also fMRI & DTI brain image analysis using FSL and DPABI and experienced programming with Spark in Hadoop.

*Network Science:* **Stanford Network Analysis Project (SNAP)**, MATLAB BGL, Gephi, Pajek, NodeXL.

*Optimization:* **MATLAB CVX**, **Mosek**, Gurobi.

*Multi Agent Development:* **Java Agent Development Framework (JADE)**, Repast Symphony.

*Operating Systems:* Windows, **Linux**, Linux Server, Windows Server.

## Work Experience

### • Software Architect

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)	
– 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, Tübingen, 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

- 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
- Time Series Forecasting in Business Intelligence Software [Git](#)  
*Developer* 2011
  - Implemented a time series forecasting model with a hybrid model of SVM, ARMA, ARIMA and ANFIS
  - Used C# and MATLAB COM library in order to execute efficient implemented neural network codes

## Selected Publications

1. **Inferring causal molecular networks: empirical assessment through a community-based effort**, *Nature Methods*, Feb 2016. [Link](#) [Git](#)
2. **Optimal pinning controllability of complex networks: Dependence on network structure**, *Journal of Physical Review E*, (PRE), 2015. [Link](#) [Git](#)
3. **Dynamics of Collective Performance in Collaboration Networks**, *accepted in XXXVI Sunbelt Conference*, April 2016.
4. **Influence Maximization of Informed Agents in Social Networks**, *Journal of Applied Mathematics and Computation*, (AMC), 2015. [Link](#) [Git](#)
5. **Large-scale Global Optimization through Consensus of Opinions Over Networks**, *Journal of the Complex Adaptive Systems Modeling, Springer*, 2013. [Link](#) [Git](#)
6. **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](#)

## Awards

Awarded **5 Years Fully-Funded Scholarship & Computer Science Fellowship** in UC Santa Barbara, Sept 2015.  
Ranked **1<sub>st</sub>** in Bio-Informatics HPN-DREAM Consortium Breast Cancer Network Inference Challenge, Feb 2014.  
Awarded a Fully-Funded **Research Scholarship** of Max Planck Institute, Tübingen, Germany, Sept 2013.  
Ranked **1<sub>st</sub>** in B.Sc. within a class of 47, Department of Computer Engineering, Jul 2011.  
Ranked **4<sub>th</sub>** 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  
*Founder of:* Java Agent Development Framework (JADE) Facebook Page — 2010 - Present

*Modified in: April 3, 2016*