Omid Askari

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Objective

To obtain an intern position with [X] utilizing my strong programming background, knowledge of machine learning and also software development experiences. Passionate to work in a team on challenging problems.

Education

Ph.D. - Computer Science (GPA: 4.0/4.0), UC Santa Barbara, CA — Expected: September 2020
M.Sc. - Computer Engineering (GPA: 4.0/4.0), Sharif University of Technology, Tehran, Iran — February 2014
B.Sc. - Software Engineering (GPA: 3.86/4.0), University of Isfahan, Isfahan, Iran — July 2011

Skills

Network Science: SNAP, MATLAB BGL, Gephi, Pajek, NodeXL.
Optimization: MATLAB CVX, Mosek, Gurobi.
Multi Agent Development: Java Agent Development Framework (JADE), Repast Simphony.
Cloud and Parallel Servers: Google App Engine Programming, Oracle (Sun) Grid Engine on Oracle Solaris.
Machine Learning and Data-mining: Big Data Analysis and Deep Learning using modern neural networks, toolboxes namely WEKA, Rapid Miner, Clementine, Theano, Deep Learning for Java (DL4J), and also fMRI & DTI brain image analysis.
Programming Languages: JAVA, C++, C#, MATLAB, C, Python, SQL, PL/SQL, T-SQL, ASP, PHP, JSP, Prolog, Ruby, Visual Basic, Pascal, R.
Operating Systems: Windows, Linux, Linux Server, Windows Server.
*Development Software Packages:*Microsoft .Net, WPF, 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.

Work Experience

- **Research Assistant**
  University of California at Santa Barbara, CA — September 2015 – Present
  - Collaborating with a group of 18 researchers and PIs from different universities on a data-driven project under Multidisciplinary University Research Initiative (MURI) grant
  - Implementing codes with C++, Python and MATLAB to model big data mathematically and experimentally show the dynamics of group formation and its evolution
- **Full-time Analyst & Software Architecture**
  Hekmat Iranian Bank, Tehran, Iran — January 2015 - August 2015
  - Analyzed a database of 5 years transactions of half of million of bank's customers
  - 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 (MPI) 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 another developer's 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 June 2011 - September 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 — July 2011 - October 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

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", November 5-8, 2009, NÜRNBERG, Germany
  - Also won another silver medal in Geneva Inventions, April 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. **Optimal pinning controllability of complex networks: Dependence on network structure,** *Journal of Physical Review E*, (PRE), 2015. **(link) (git)**
2. **Empirical assessment of causal network inference through a community-based effort,** *Accepted and to appear in* ***Nature Methods***, 2015.
3. **Influence Maximization of Informed Agents in Social Networks,**, *Journal of Applied Mathematics and Computation*, (AMC), 2015. **(link) (git)**
4. **Large-scale Global Optimization through Consensus of Opinions Over Networks,** *Journal of the Complex Adaptive Systems Modeling*, *Springer*, 2013. **(link) (git)**
5. **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, September 2015.
Ranked $\mathbf{1}_{st}$ in Bio-Informatics HPN-DREAM Consortium Breast Cancer Network Inference Challenge, February 2014.
Awarded a Fully-Funded **Research Scholarship** of Max Planck Institute, Tüebingen, Germany, September 2013.
Ranked $\mathbf{1}_{st}$ in B.Sc. within a class of 47, Department of Computer Engineering, July 2011.
Ranked $\mathbf{4}_{th}$ in M.Sc. within a class of 56, Department of Computer Engineering, February 2013.
Awarded **Fellowship of Exceptional Talents** for M.Sc. Program in Sharif University of Technology, September 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