

Objective

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

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

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.

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 Simphony.

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

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.

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

Work Experience

• 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 people group formation, evolution and optimization both mathematically and experimentally

• Full-time Analyst & Software Architecture

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 (MPI) 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. **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, 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, Tübingen, 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: Journal of Complex Networks, Oxford University Press — 2013 - Present

Founder of: Java Agent Development Framework (JADE) Facebook Page — 2010 - Present

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