

Kazem Jahanbakhsh

Cellphone: +1 (778) 990-9140 - Email: k.jahanbakhsh@gmail.com
Homepage: <http://www.kazemjahanbakhsh.com>

SUMMARY

I completed my PhD in computer science in 2012. The focus of my research was predicting people social behaviour by designing Machine Learning algorithms.

At A.I. Optify, I have been designing Machine Learning algorithms for programmatic ad buying. My algorithms have been used by several Ad-Tech and Marketing companies in US, Canada, & Europe contributing to millions of dollars annual revenue. I also designed customized ML bidding engine for RTB bidders. The core of the bidder is its Machine Learning algorithm which optimizes bids for maximum click or conversion rates.

At Trulioo, I worked on online fraud detection problem by applying Machine Learning algorithms to score over 2.0 billion Facebook, Twitter, Google+, and LinkedIn social profiles.

At Seekers Solutions, I designed & implemented NLP models for extracting topics from text documents and tagging medical texts.

EDUCATION

<i>PhD</i> , Computer Science University of Victoria, Victoria, B.C.	2007 - 2012
<i>M.Sc.</i> , Electrical and Computer Engineering Sharif University of Technology, Tehran, Iran.	2003 - 2005
<i>B.Sc.</i> , Electrical Engineering Sharif University of Technology, Tehran, Iran.	1997 - 2001

ACADEMIC AWARDS & HONORS

Ranked *3rd* in Canada and *44th* in the world in IEEE Programming Competition. 2011
University of Victoria Graduate Scholarship (\$30,000). 2007 - 2008
Ranked *50th* among 10,000 students in National Entrance Exam for Graduate Studies. 2003
Ranked *24th* among 300,000 participants in National University Entrance Exam. 1997

WORK EXPERIENCE

<i>CTO</i> Qudos, Vancouver BC	Dec 2015 - Present
<ul style="list-style-type: none">Leading Technology and Marketing teams.	
<i>Co-Founder</i> A.I. Optify, Vancouver BC	July 2014 - Present
<ul style="list-style-type: none">Designing customized RTB bidders powered by Machine Learning. The bidder ML engine optimizes bids for highest click/conversion rates by analyzing the advertisers first-party data & Ad campaigns performance data.	
<i>Consultant</i> Pretio Interactive, Vancouver BC	Dec 2014 - Feb 2015
<ul style="list-style-type: none">Designed Machine Learning algorithms to serve ads on Pretio Network to maximize campaigns conversion rates.	
<i>Chief Data Scientist</i> Trulioo, Vancouver BC	Sep 2013 - June 2014
<ul style="list-style-type: none">Designed & implemented a fraud detection system using Machine Learning & NLP algorithms. We scored more than 2 billion social profiles worldwide using	

my designed fraud detection models.

Data Scientist Lead Jan 2013 - Aug 2013
Seeker Solutions, Victoria BC

- Designed an LDA-based model for text topic modeling. Also designed an Named Entity Recognition algorithm by combining HMM & CRF models for tagging medical texts.

Consultant Sep 2012 - Feb 2014
Red Brick Media, Victoria BC

- Designed Machine Learning algorithms to predict online ads conversion rate to serve the optimal ads to maximize campaigns ROI.

Software Developer Mar 2011 - Sep 2011
Proven, San Francisco CA

- Worked on Proven backend. Implemented a Facebook app to connect job seekers to employers.

Research Assistant Sep 2007 - Aug 2012
University of Victoria, Victoria BC

- Designed Machine Learning algorithms to predict people interactions in conferences. Analyzed Facebook graph to design fast information spreading algorithms for online advertising applications.

Software & Network Engineer Jan 2006 - June 2006
Patsa Company, Tehran, Iran.

- Consulting on *Iran National MPLS* project for redesigning Internet backbone. Configuring *Sun* Servers and *Oracle* database servers. Installation & configuration of high end *Cisco* routers' management applications.

Software Developer 2003 - 2005
Afranet Company, Tehran, Iran.

- Designing and implementing Sanjesh.org & Azmoon.com organizations websites using *LAMP* technology and Linux Clustering. Linux servers administration & configuration including *Apache*, *MySQL*, and *Oracle* database servers. Building an on-line game center using *MOSIX* clustering technology.

SOFTWARE RESEARCH PROJECTS

Social Network Analysis/Machine Learning/Data Mining 2007 - Present
I have been working on several software research projects:

- *Predicting US 2012 Election*: a software project for predicting US 2012 presidency election result by analyzing a large number of political tweets. I have used sentiment analysis to process political tweets and predict election results.
- *Starling - A Flu Predictor App*: a web application developed/demoed on Firefox OS App Day in Feb 2013. The app computes the probability that a person catches the flu by analyzing geographical distribution of tweets posted by people who have mentioned the flu. We used Machine Learning & Natural Language Processing to analyze/understand tweets.
- *Information Spreading*: an efficient C code for analyzing speed of information spreading algorithms in online social networks. This software also analyzes the detail connectivity of online social networks by testing all graph cuts.
- *Social-Sim*: a comprehensive simulator written in *C++* for analyzing statistical properties of people mobility in different social settings such as conferences & outdoor events.

- *Human Contact Predictor*: implemented several supervised/unsupervised algorithms in *C++* & *Python* to predict the next person you will contact in the near future by exploiting known properties of social contact graphs.
- *Hometown Predictor*: a program implemented in *Python* for predicting where a user lives by analyzing her uploaded photos on Flickr website.

SIDE TECH PROJECTS

Mobile Apps/Games/Social Mining/Data Mining/Networking Apps 2007 - Present

- *Vancouver City Talks*: a web application which consumes different Vancouver Open Data including crime data, businesses data, property taxes, schools, libraries, and parks and computes a score for life quality in different areas in Vancouver city. This project was developed in Open Data Hackathon 2013.
- *Real-Time Bus Tracking System*: a mobile crowdsensing system for iPhone to track bus locations in real-time using machine learning techniques. This project was designed/implemented in AngelHack Hackathon 2012 event in Seattle.
- *Tweet Map*: a web application for showing the real-time map of geo-tagged tweets with their positive/negative sentiment labels. This application was designed and implemented during 24-hour Amazon 2012 Hackathon event.
- *Mobile Trivia Game*: a mobile social version of Trivia game. Enter a code and join a multi-player Trivia SMS game with other people who are around you. Our team got the 5th rank among 25 teams in HackVan 2012 conference in Vancouver.
- *Fountain of Information*: a web application for finding the closest drinking fountain to your current location on Google map. This was developed in Vancouver Open Data Hackathon event, 2012.
- *k-means Clustering*: an implementation of *k-means* clustering algorithm in *Python*.
- *Community Detection*: a *Python* implementation of Girvan-Newman *community detection* algorithm for weighted social graphs.
- *Flickr Crawler*: a two-layers crawler in *Python* for crawling *Flickr* website using Flickr API. First layer collects friendship graph of Flickr users while second layer crawls social profiles of Flickr users and their uploaded photos attributes.
- *Reliable Datagram Protocol*: a multi-threaded reliable application layer implemented in *C*. This application layer runs on top of UDP layer in order to make UDP reliable.
- *Soma Cube Puzzle Solver*: *Java* code for solving 7-pieces Soma Cube puzzle by using a recursive backtracking search.
- *Super Blimp*: an embedded system developed in *C* for controlling an autonomous flying blimp.

PUBLICATIONS

- K. Jahanbakhsh and Y. Moon, The Predictive Power of Social Media: On the Predictability of U.S. Presidential Elections using Twitter, submitted to a data mining conference.
- K. Jahanbakhsh, V. King, G.C. Shoja, Predicting Missing Contacts in Mobile Social Networks, Elsevier Pervasive and Mobile Computing Journal, 2012.
- K. Jahanbakhsh, V. King, G.C. Shoja, Predicting Human Contacts in Mobile Social Networks using Supervised Learning, The Fourth ACM Annual Workshop on Simplifying Complex Networks for Practitioners, 2012, Lyon, France.
- K. Jahanbakhsh, V. King, G.C. Shoja, Empirical Comparison of Information Spreading Algorithms in the Presence of 1-Whiskers, Third IEEE International Conference on Social Computing, 2011, MIT, Boston, USA.
- K. Jahanbakhsh, V. King, G.C. Shoja, Predicting Missing Contacts in Mobile Social Networks, IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks, 2011, Lucca, Italy.

- K. Jahanbakhsh, G.C. Shoja, V. King, Human Contact Prediction Using Contact Graph Inference, The Third IEEE/ACM Conference on Social Computing, 2010, Hangzhou, China.
- K. Jahanbakhsh, G.C. Shoja, V. King, Social-Greedy: A Socially-Based Greedy Routing Algorithm for Delay Tolerant Networks, ACM/SIGMOBILE MobiOpp, 2010, Pisa, Italy.
- Y.O. Yazir, K. Jahanbakhsh, S. Ganti, G.C. Shoja, Y. Coady, A Low-Cost Realistic Testbed for Mobile Ad-hoc Networks, IEEE Pacific Rim Conference on Communications, Computers and Signal Processing, 2009, Victoria, British Columbia.
- M. Ghelichi, K. Jahanbakhsh, E. Sanaei, RCCT: Robust Clustering with Cooperative Transmission for Energy Efficient Wireless Sensor Networks, 7th International Conference on Information Technology : New Generations, 2008, Las Vegas, Nevada, USA.
- K. Jahanbakhsh, M. Hajhosseini, Improving Performance of Cluster Based Routing Protocol using Cross-Layer Design, 2008.
- K. Jahanbakhsh, J. Papadopoulos, An efficient Parallel Implementation of Self Initialization Quadratic Sieve for Integer Factorizations Using Message Passing Interface (MPI), Proceedings of 14th Iranian Conference on Electrical Engineering, 2006, Tehran, Iran.
- N. Jahangiri, K. Jahanbakhsh, M. Yaghubi, B. V. Vahdat, Device Drivers Skelton in Windows 98, Proceedings of 12th Iranian Conference on Electrical Engineering, 2004, Mashhad, Iran.

PREVIOUS RESEARCH EXPERIENCE

Research Assistant July 2005 - July 2007
 Computing Center, Sharif University of Technology, Tehran, Iran.

- Research on *Linux clustering* technologies.
- Designing and building a *High Performance Computing Cluster* (Unix-based) for Tabriz University.

Research Assistant (M.Sc. Thesis) 2004 - 2005
 BSP Lab., Sharif University of Technology, Tehran, Iran.

- Studying *RSA-Key* encryption/decryption algorithms.
- Studying parallel computing by using *MPI* library in C.
- Implementation and optimization of a parallel RSA-Key cracking program in C by using MPI library.

Research Assistant August 2004 - December 2004
 Electronic Research Center, Sharif University of Technology, Tehran, Iran.

- Analyzing security holes of different network protocols such as Telnet, SSH, PGP, SNMP, IPSEC, and SSL to design a secure computer network.
- Modifying engine and GUI of *Ethereal* Network Analyzer package to support *NMAP* tool functionality for security analysis demands.

COURSES TAKEN

Data Mining (A+), Algorithmic Mechanism Design and Social Computing (A+), Randomized Algorithms (A+), Analysis of Algorithms (A+), Topics in Artificial Intelligence (A), Software for Embedded & Mechatronics Systems (A+), Wireless & Mobile Networks (A-), Communication Networks (A+), and Operations Research & Simulation (A+)