

RESUME

OF

MOHAMMAD ALI SAFARI

Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

Fax(es)

Email(s)

Date of birth

Safari Mohammad Ali

Room 3-13, Computing Science Centre
department of Computer Science, University of Alberta
Edmonton, AB V6T 1Z4
T6G 2E8

home: 1-604-228-1048

work: 1-604-827-3989

work: 1-604-822-5485 (Attn. to Mohammad Ali Safari)

safari@cs.ubc.ca

10. April 1979

Work Experience

- Dates
- Name and address of employer
- Occupation or position held
- Projects

August 2003–October 2005

Sharif University of Technology Association (<http://suta.org>)

Website Administrator

– SUTA Reunion 2004

– Membership management (credit card payment process through authorize.net gateway, membership reminders, etc.)

- Dates
- Name and address of employer
- Occupation or position held
- Main activities and responsibilities

May 2006–Present

Academier (<http://www.academier.com>)

Founder and Administrator

Academier is a a universal place for people in academia to build their homepage, make resume, make networking, and manage their papers.

- Dates
- Name and address of employer
- Occupation or position held
- Projects

Teaching Assistant

– CPSC445: Algorithm for Bioinformatics. Winter'05, Winter'07.

– CPSC320: Intermediate Algorithms. Fall'03, Winter'03, Summer'04, Summer'05, Fall'05.

– CS466/666 (University of Waterloo): Advanced Algorithms. Winter'02.

– CS240 (University of Waterloo): Data Structures and Data Management. Winter'02.

– CS241 (University of Waterloo): Foundation of Sequential Programming. Winter'02.

– Winter'02: (University of Waterloo) Principles of Computer Science. Winter'02.

– CE40-224: (Sharif University of Technology). Data Structures and Algorithms. Winter'01.

– CE40-411 (Sharif University of Technology). Theory of Machines and Languages. Fall'00.

- Dates
- Name and address of employer
 - Occupation or position held
 - Projects

Lecturer

- 1999-2001: Backtracking and algorithm techniques. for participants of International Computer and Informatics Olympiad, Young Scholars Club, Iran.

- Dates
- Name and address of employer
 - Occupation or position held
 - Projects

Presentations

- "D-Width: A more natural measure for directed tree-width", in 30th International Symposium on Mathematical Foundations of Computer Science (MFCS'05), Gdansk, Poland, August'05.
- "Directed One Trees", in European Conference on Combinatorics, Graph Theory and Applications (EuroComb'05), Berlin, Germany, August'05.
- "Metric Embedding", in Complexity Group at the department of Computing Science, Simon Fraser University, October 2006.
- "Low Distortion Metric Embedding", Department of Computing Science, University of Alberta, October 2007.

- Dates
- Name and address of employer
 - Occupation or position held
- Main activities and responsibilities
 - Dates
 - Name and address of employer
 - Occupation or position held
 - Projects

April 2006

UBC TAG Program (<http://www.tag.ubc.ca/programs/isw/students.php>)

Workshops attended

A 24 hour workshop, Instructional Skills Workshops. A certificate was given at the end.

April 2004–April 2004

Department of Computer Science, University of British Columbia. with Prof. Will Evans et al.

Researcher

- We worked on Bar-K-Visibility graphs and obtained various results.

- Dates
- Name and address of employer
 - Occupation or position held
 - Projects

September 2003–August 2007

Bioinformatics, and Empirical and Theoretical Algorithmics Laboratory (beta-Lab) (<http://www.cs.ubc.ca/labs/beta/>) supervised by Prof. Will Evans

Research Assistant

- We've proved that series-parallel graphs are embeddable into L_1 with distortion 6.0. The previous bound was 13.92. This has application in the sparsest cut problem which is, in turn, the main ingredient of many other hard problems.
- We proved that if the optimal embedding distortion between two line metrics is at most some constant, 13.63, then one can find that embedding in polytime. We also found some applications in pattern matching and stack sorting.
- We resolved some fundamental questions about D-Width: An algorithm for computing optimal D-Decomposition for bound D-Width digraphs, equivalence between D-Width and cop-monotone cops and robber game and some other algorithmic results.
- We extended D-Width to hypergraphs and proposed hyper D-Width as a measure of connectivity. One very nice implication was tractable solution for bounded hyper D-Width SAT problems in which every variable occurs in bounded number of clauses.

- Dates January 2002–August 2003
 - Name and address of employer School of Computer Science, University of Waterloo, supervised by Prof. Prabhakar Ragde
 - Occupation or position held Research Assistant
 - Projects
 - We introduced D-Width as a new measure of connectivity for directed graphs. It resembles tree-width on undirected graphs, has all advantages of previous definition by Johnson et al., and has potential for many algorithmic applications.
-
- Dates September 2002–August 2003
 - Name and address of employer School of Computer Science, University of Waterloo, with Prof. Alex Lopez Ortiz
 - Occupation or position held Researcher
 - Projects
 - We found a linear time order preserving compression which works very well in comparison with the best non-order-preserving compression methods and has many applications.
-
- Dates January 2002–May 2002
 - Name and address of employer School of Computer Science, University of Waterloo, with Prof. Therese Biedl
 - Occupation or position held Researcher
 - Projects
 - We proved that every series parallel graphs in which every edge appears in at most two triangles has boxicity at most two.
-
- Dates 1999–2001
 - Name and address of employer Sharif Arvand Robocup Simulation Group, department of computer Engineering, Sharif University of Technology.
 - Occupation or position held Researcher and Developer
 - Projects
 - We researched and implemented various AI techniques on a simulated soccer environment. In particular, I used neural networks to help the goalie take fast and accurate decisions.
-
- Dates September 2000–August 2001
 - Name and address of employer Department of Computer Engineering, Sharif University of Technology, with Prof. Mohammad Ghodsi
 - Occupation or position held Researcher
 - Projects
 - We worked on interval routing schemes(IRS) on networks. IRS is a space efficient routing strategy on networks. In particular, we did some research on multidimensional interval routing schemes (MIRS) and its connection to tree-width.

- Dates
- Name and address of employer
 - Occupation or position held
- Projects

Reviewer

- *Graphs and Combinatorics Journal*. Reviewed some papers.
- *CSI Computer Conference*. Reviewed 7 papers for the 12th International CSI (Computer Society of Iran) Computer Conference.
- *STACS*. Reviewed some papers.
- *Theoretical Computer Science*. Reviewed some papers.

August 2003–October 2005

Sharif University of Technology Association (<http://suta.org>)

Website Administrator

Sharif University of Technology Association (SUTA) is a global organization that was formed in 2000 to facilitate communication and collaboration among the graduates, faculty and staff of the Sharif University (formerly Arya-Mehr University) and has thousands of members across the world. SUTA website is build on top of PostNuke CMS (<http://postnuke.org>). I basically added some new modules to customize it for SUTA.

- Dates
- Name and address of employer
 - Occupation or position held
- Main activities and responsibilities

- Projects

- *Membership Management*. Membership management (credit card payment process through authorize.net gateway, membership reminders, etc.). Used DOM/Ajax/Javascript to make the process faster.
- *Event Management*. Organized all aspects of several events (SUTA global reunion in Heidelberg in 2004 , SUTA Local Chapters events). Duties included preparing a dynamic page to keep news / pictures/ registrations/ payments/ etc.

June 2001–December 2001

Aria Corp. (Tehran, Iran)

R&D

We worked on a speech recognition software to recognize simple Persian (Farsi) words on the phone. Duties included doing research on analyzing sound data using Matlab and other relevant tools as well as developing the software.

- Dates
- Name and address of employer
 - Occupation or position held
- Main activities and responsibilities

Education And Training

- Dates
- Name and type of organization providing education and training
 - Title of qualification awarded
 - Major Studies
 - Subjects

September 2003–e. September 2007

University of British Columbia (<http://www.ubc.ca/>), Vancouver, Canada.

Ph.D.

Computer Science

Computational Complexity: 94

MultiAgent Systems (Game Theory): 93

Machine Learning: AUDIT

- Dates
- Name and type of organization providing education and training
 - Title of qualification awarded
 - Major Studies
 - Overall
 - Subjects

January 2002–August 2003
 University of Waterloo (<http://uwaterloo.ca>), Waterloo, Canada.

M.Math.
 Computer Science
 92 out of 100
 Graph Theoretic Algorithms: 97
 Advanced Algorithms: 94
 Algorithms for the Internet: 95
 Computer-Aided Verification: 86
 Cryptography/Network Security: 88
 Randomized Algorithms: AUDIT

- Dates
- Name and type of organization providing education and training
 - Title of qualification awarded
 - Major Studies
 - Minor Studies
 - Overall
 - Subjects

September 1997–August 2001
 Sharif University of Technology (<http://www.sharif.edu/>), Tehran, Iran.

B.Sc.
 Computer Engineering
 Software
 17.01 out of 20
 Advanced Algorithms: 20 out of 20
 Seminars on Graphs and Algorithms: 19.5 out of 20

Skills

Technical Skills

- *Programming Languages*: C/C++, Perl, Java, Pascal
- *Web Development*: (X)HTML / CSS / Javascript, Perl / PHP, Web 2.0
- *Linux / UNIX*: Shell scripts, Network programming, Distributed computing, Cross compiling
- *Internationalization*: Unicode, Bidirectional text, Localization
- *Academic Software and Languages*: Matlab, Maple, LISP, Prolog
- *Database*: Mysql
- *XML*: XML, XSL, XPath, DTD, DOM, RSS, RDF

Interests

Research Interests

- *Research Interests*: Design and analysis of algorithms (approximation and randomized algorithms in particular), constraints satisfaction, algorithmic graph theory, metric embedding, game theory, and combinatorial optimization.

Additional Information

Memberships

- Member of Scientific Committee
Iran National Committee of Olympiad in Informatics
Responsible for preparing Iranian student team to participate in annual IOI (<http://www.ioinformatics.org/>) competitions. Duties included designing exams, marking them, organizing classes, etc.
- Member of Scientific Committee
ACM/ICPC Tehran Regional Site
Designed the questions
- Member of Board of Directors
Knowledge Diffusion Network (<http://knowdiff.net>)
–Present
Knowledge Diffusion Network is a nonprofit organization registered at Canada that aims to promote collaboration of Iranian academics living abroad with the scientific community in Iran. This organization was founded in December 2003 by a few alumni of Iranian universities who reside in Canada, U.S., U.K. and Iran.

Academic Awards

- Ph.D. tuition fee award, University of British Columbia, 2003–2007
7200\$ per year.
- Graduate Entrance Scholarship, Department of Computer Science, University of British Columbia, 2003
5000\$ given to the best incoming graduate students of every year.
- International Graduates Scholarship, University of Waterloo, 2002–2003
- Robocup Online Coach League, 2001
1st (together with Sharif-Arvand Robocup Team Members) in the online coach league at the 5th robocup world championship, Seattle, US.
- Robocup Simulation League, 2001
3rd (together with Sharif-Arvand Robocup Team Members) in simulation league at the first German Open robocup, Paderborn, Germany.
- Robocup Simulation League, 2000
7th (together with Sharif-Arvand Robocup Team Members) in the simulation league at the 4th robocup world championship, Melbourne, Australia.
- Robocup Simulation League, 2000
1st (together with Sharif-Arvand Robocup Team Members) in the first Iranian robocup championship, Tehran, Iran.
- Iran university entrance exam, 1997
53rd among more than 350,000 participants in the nation-wide university entrance exam.
- Iranian Olympiad in Informatics, 1997
Silver Medal.
- Iranian Olympiad in Informatics, 1996
Bronze Medal.

Publications

M.Khabbazian + K.K.Leung + MohammadAli Safari: *On the Optimal Phase Control in MIMO Systems with Phase Quantization* (<http://academier.com/paper/show/?paper=2846>). In *Proceedings of IEEE ICC'06.* , 2006.

Alice M. Dean + William Evans + Ellen Gethner + Joshua D. Laison + MohammadAli Safari + William T. Trotter: *Bar Visibility Graphs: Bounds on the Number of Edges, Chromatic Number, and Thickness.* (<http://academier.com/paper/show/?paper=2832>). In *Graph Drawing.* , 2005. 73–82

Will Evans + MohammadAli Safari: *Directed One Trees* (<http://academier.com/paper/show/?paper=385>). In *Eurocomb.* , 2005.

Alejandro Lopez-Ortiz + Mahdi Mirzazadeh + MohammadAli Safari + Hossein SheikhAttar: *Fast String Sorting using Order Preserving Compression* (<http://academier.com/paper/show/?paper=393>). In *ACM Journal of Experimental Algorithms.* , 2005.

MohammadAli Safari: *D-Width: A More Natural Measure for Directed Tree Width.* (<http://academier.com/paper/show/?paper=2>). In *MFCS.* , 2005. 745–756

Michael H. Albert + Alexander Golynski + Ang[U+FFFD] M. Hamel + Alejandro Lopez-Ortiz + S. Srinivasa Rao + Mohammad Ali Safari: *Longest increasing subsequences in sliding windows* (<http://academier.com/paper/show/?paper=3>). In *Theor. Comput. Sci.* , 2004. 405–414

Jafar Habibi + Ehsan Chiniforooshan + A. Heydar Noori + Mehdi Mirzazadeh + MohammadAli Safari + HamidReza Younesi: *Coaching a Soccer Simulation Team in RoboCup Environment.* (<http://academier.com/paper/show/?paper=4>). In *EurAsia-ICT.* , 2002. 117–126

References

Will Evans
Professor
University of British Columbia
Phone: (1) 604 822-0827
Email: will@cs.ubc.ca

Prabhakar Ragde
Professor
University of Waterloo
Phone: (1)519-888-4567 (x34660)
Email: pragde@uwaterloo.ca

David Kirkpatrick
Professor
University of British Columbia
Phone: (1) 604-822-4777
Email: kirk@cs.ubc.ca