

RESUME OF MOHAMMAD ALI SAFARI

Personal information

Surname(s) / First name(s)

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Date of birth

Safari Mohammad Ali

2366 Main Mall
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Canada

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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

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
 - Name and address of employer
 - Occupation or position held
 - Projects
- January 2002–August 2003
 School of Computer Science, University of Waterloo, supervised by Prof. Prabhakar Ragde
 Research Assistant
- 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.
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- Dates
 - Name and address of employer
 - Occupation or position held
 - Projects
- September 2002–August 2003
 School of Computer Science, University of Waterloo, with Prof. Alex Lopez Ortiz
 Researcher
- 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.
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- Dates
 - Name and address of employer
 - Occupation or position held
 - Projects
- January 2002–May 2002
 School of Computer Science, University of Waterloo, with Prof. Therese Biedl
 Researcher
- We proved that every series parallel graphs in which every edge appears in at most two triangles has boxicity at most two.
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- Dates
 - Name and address of employer
 - Occupation or position held
 - Projects
- 1999–2001
 Sharif Arvand Robocup Simulation Group, department of computer Engineering, Sharif University of Technology.
 Researcher and Developer
- 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.
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- Dates
 - Name and address of employer
 - Occupation or position held
 - Projects
- September 2000–August 2001
 Department of Computer Engineering, Sharif University of Technology, with Prof. Mohammad Ghodsi
 Researcher
- 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.
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- 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.

- 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

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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.

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 2006–2007

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.

Education And Training

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

September 2003–August 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
 - Overall
 - Subjects

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

B.Sc.
 Computer Engineering
 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

Interests

Research Interests

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

Additional Information

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

Will Evans + MohammadAli Safari: *On the 11 embedding of series-parallel graphs* (<http://academier.com/paper/show/?paper=505>). In . , Submitted.

Will Evans + Paul Hunter + MohammadAli Safari: *D-Width and Cops and Robbers* (<http://academier.com/paper/show/?paper=3010>). In . , Submitted.

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 Algorithmics*. , 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 + Angele 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

Jafar Habibi + Ehsan Chiniforooshan + Majid Khabbazian + Mahdi Mirzazadeh + MohammadAli Safari + HamidReza Younesi: *Sharif-Arvand Simulation Team*. (<http://academier.com/paper/show/?paper=5>). In *RoboCup*. , 2000. 433–436

References

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University of British Columbia

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