

CURRICULUM VITAE

Personal Information

First Name: Samira
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Date of Birth: July 12th, 1980
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Educational Background

Sep.12-Nov.18 Ph.D. in Computer Science, School of Computer Science, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
Thesis title: *Computational Models for Decision Making in Multi-environments*.
Supervisors: Prof. A. Edalat, Imperial College, London U.K. and Prof. G.B. Khosrovshahi, IPM, Tehran, Iran.

Sep.04-Sep.06 M.Sc. in Mathematics, Department of Mathematics and Computer Science, Amirkabir University of Technology, Tehran, Iran.
Thesis title: *Adjacency Matrix and Incidence Matrix of a Graph*.
Supervisor: Prof. S. Akbari, Sharif University of Technology, Tehran, Iran.

Sep.99-Sep.03 B.Sc. Mathematics, Department of Mathematical Sciences, Sharif University of Technology, Tehran, Iran.
Project title: *Topic in Differential Topology*
Supervisor: Prof. P. Safari, IPM, Tehran, Iran.

Research Interests

My research interests include:

- Game theory and its applications in economics
- Algorithmic game theory
- Graph theory
- Synchronization in complex networks

Research/Work Experience

Jan.19-Present Postdoctoral Researcher, School of Computer Science, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.

Mar.17-Jun.17 Visiting Researcher, School of Business and Economics (SBE), Maastricht University, Maastricht, the Netherlands.

Sep.09-Sep.12 Research Assistant, School of Mathematics, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.

Jun.09-Present Project Planning Control Specialist, NIOEC Company, Tehran, Iran.

Mar.06-Jun.09 Senior Cryptography Specialist, Cryptography Group, SAIRAN, Tehran, Iran.

Mar.03-Mar.06 Statistics Specialist, Islamic Republic of Iran Broadcasting, Tehran, Iran.

Teaching Experience

I have taught:

- *Linear Algebra, Department of Computer Engineering, Sharif University of Technology, Tehran, Iran, Fall 2020, Spring and Fall 2021, Spring and Fall 2022.*
- *Computational Methods, Department of Computer Engineering, Sharif University of Technology, Tehran, Iran, Fall and Spring 2022.*
- *Game Theory, School of Mathematics, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran, Spring 2019.*
- *Game Theory, School of Biological Sciences, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran, Summer 2019.*

Publications

Theses

1. S. Hossein Ghorban, **Computational Models for Decision Making in Multi-environments**, PhD Thesis, 2018, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
2. S. Hossein Ghorban, **Adjacency Matrix and Incidence Matrix of a Graph**, MSc Thesis, 2006, Department of Mathematics, Amirkabir University of Technology, Tehran, Iran.

Journal Papers

1. S. Hossein Ghorban, B. Hesaam, H. Sarbazi-Azad, **A rewiring mechanism to improve synchronization in Kuramoto networks**, *Journal of Statistical Mechanics: Theory and Experiment*, Vol.2022, No.11, pp.112-123, 2022.
2. S. Hossein Ghorban, F. Baharifard, B. Hesaam, M. Zarei, H. Sarbazi-Azad, **Linearization error in synchronization of Kuramoto oscillators**, *Applied Mathematics and Computation*, Vol.411, No.1, pp.112-123, 2021.
3. H. Esmailian, E. Ghorbani, S. Hossein Ghorban and G.B. Khosrovshahi, **Maximal Graphs With Respect to Rank**, *Discrete Mathematics*, Vol.344, No.1, pp.112-123, 2021.
4. S. Akbari, S. Hossein Ghorban, S. Malik, and S. Qajar, **Conditions for Regularity and for 2-Connectivity of Toeplitz Graphs**, *Utilitas Mathematica*, Vol.110, No.1, pp.305-314, 2019.
5. A. Edalat, S. Hossein Ghorban and A. Ghoroghi, **Ex Post Nash Equilibrium in Linear Bayesian Games for Decision Making in Multi-Environments**, *Games*, Vol.9, No.4, pp.85-109, 2018.
6. S. Akbari, A. Abdolghafurian, S. Hossein Ghorban, and S. Qajar, **Dominating Coloring Number of Claw-free Graphs**, *Electronic Notes in Discrete Mathematics*, Vol.45, No.1, pp.91-97, 2014.
7. S. Hossein Ghorban, **Toeplitz Graph Decomposition**, *Transactions on Combinatorics*, Vol.1, No.4, pp.35-41, 2012.

Conference and workshop Papers

1. S. Hossein Ghorban and B. Hesaam, **Product Portfolio Management in Competitive Environment**, *The 6th World Congress of the Game Theory Society*, 19-23 July 2021, Budapest, Hungary.

2. S. Hossein Ghorban, **Strategic Technology Adoption in Networked Markets**, *Proceedings of the Future Technologies Conference (FTC)*, November 13-14, 2018, Vancouver, Canada.
3. A. Edalat, S. Hossein Ghorban, **Computing Mixed Bayesian Nash Equilibrium for Double Games**, *The fifth World Congress of the Game Theory Society*, July 24 - 28, 2016, Maastricht, the Netherlands.
4. S. Hossein Ghorban, **Analysis of Cournot Competition in Network with Incomplete Information**, *The first National Informatics Conference (NIC)*, January 15-16, 2020, IPM, Tehran, Iran.
5. M. Bateni, H. Esfandiari, S. Hossein Ghorban and A. Montaseri, **Active Learning via Density-based Space Transformation**, *WSDM'23 Crowd Science Workshop on Collaboration of Humans and Learning Algorithms for Data Labeling*, February 27, 2023, Singapore.

Professional Services/Membership

Organizing Committee Member

- *National Informatics Conference (NIC)*, January 04-05, 2023, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, January 12-13, 2022, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, December 23-24, 2020, IPM, Tehran, Iran.
- *The CSI/CPSSI International Symposium on Real-Time and Embedded Systems and Technologies (RTEST)*, June 10-11, 2020, IPM, Tehran, Iran.
- *IPM Summer School in Game Theory*, August 31-September 5, 2019, IPM, Tehran, Iran.

Program Committee Member

- *National Informatics Conference (NIC)*, January 04-05, 2023, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, January 12-13, 2022, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, December 23-24, 2020, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, January 15-16, 2020, IPM, Tehran, Iran.

Talks

1. **Decision Making in daily life: a polymatrix game approach**, *Workshop of Graph Theory and its Applications*, IPM, Isfahan, Iran, January 2021.
2. **Decision Making in Interactive Environments**, *IPM Seminar on Computer Science*, IPM, Tehran, Iran, December 2020.
3. **What is Nash equilibrium?** *IPM Weekly meeting on Combinatorics and Computing*, IPM, Tehran, Iran, February 2019.
4. **Multi-games for Decision Making in Multi-environments**, *CWI-DIAMANT Seminar Combinatorics and Optimization*, Centrum Wiskunde & Informatica (CWI), Amsterdam, the Netherlands, May 2017.
5. **Multi-games for Decision Making in Multi-environments**, *MLSE Seminar*, Maastricht University, Maastricht, the Netherlands, April 2017.

6. **A Bayesian Model for Decision Making in Multi-environments**, *IPM Weekly Seminar on Combinatorics and Computing*, IPM, Tehran, Iran, June 2017.
7. **Maximal Graphs with Respect to Rank**, *ICTP-IPM Workshop and Conference in Combinatorics and Graph Theory*, Trieste, Italy, September 2012.

Skills and Interests

I am familiar with:

- Computer math packages: Maple, Matlab.
- Project management packages: Microsoft Project, Primavera.
- Programming languages: C++, Python.

Referees

Dr G. B. Khosrovshahi, Professor,
School of Mathematics,
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Tehran, Iran.
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Dr A. Edalat, Professor,
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Dr H. Sarbazi-Azad, Professor,
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Dr. Gholamhossein Hamedani,
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