

CURRICULUM VITAE

Personal Information

First Name: Samira
Family Name: Hossein Ghorban
Date of Birth: July ۱۲th, ۱۹۸۰
Nationality: Iranian
Marital Status: Single
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Educational Background

- Sep. ۱۲-Nov. ۱۸ 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.
- Sep. ۰۴-Sep. ۰۶ 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. ۹۹-Sep. ۰۳ B.Sc. Mathematics, Department of Mathematical Sciences, Sharif University of Technology, Tehran, Iran.
Project title: *Topic in Differential Topology*
Supervisor: Prof. P. Safari, Harvard University, USA.

Research Interests

My research interests include:

- Game theory and its applications in economics.
- Synchronization in complex networks.
- Interconnection Networks.
- Artificial intelligence (AI) and Machine Learning (ML).

Research Experience

- Jan. ۲۳-Present Researcher, School of Computer Science, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
- Jan. ۱۹-Jan ۲۳ Postdoctoral Researcher, School of Computer Science, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
- Mar. ۱۷-Jun. ۱۷ Visiting Researcher, School of Business and Economics (SBE), Maastricht University, Maastricht, the Netherlands.
- Sep. ۰۹-Sep. ۱۲ Research Assistant, School of Mathematics, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.

Industry Experience

June.۲۴-Dec.۲۴	Project Manager for Sabzab- Rey Sour Crude Oil Transmission Pipeline.
Jully.۲۳-June.۲۴	Head of Construction and Installation for Sabzab- Rey Sour Crude Oil Transmission Pipeline.
June.۲۰-Nov.۲۴	Project Management Office (PMO).
Sep.۱۸-Mar.۲۱	The Committee for Reviewing Delays at NIOEC.
۲۰۱۴-۲۰۱۸	Responsible for Reviewing Change Orders and Claims for Shazand Imam Khomeini Refinery Expansion & Upgrading project.
۲۰۱۷-۲۰۱۸	Project Planning and Control Manager for Setare Khalij Fars Refinery.
۲۰۱۷-۲۰۱۸	Spare Parts Manager for Shazand Imam Khomeini Refinery Expansion & Upgrading project.
۲۰۱۰-۲۰۱۴	Procurement Manager for Shazand Imam Khomeini Refinery Expansion & Upgrading project.
۲۰۰۹-۲۰۱۰	Project Planning and Control Expert at Shazand Imam Khomeini Refinery Expansion & Upgrading project.
۲۰۰۸-۲۰۰۹	Senior Cryptography Specialist, Cryptography Group, SAIRAN, Tehran, Iran.
۲۰۰۳-۲۰۰۶	Statistics Specialist, Islamic Republic of Iran Broadcasting, Tehran, Iran.

Teaching Experience

I have taught:

- *Linear Algebra, Department of Computer Engineering for Machine Learning, Sharif University of Technology, Tehran, Iran, Fall 2020, Spring and Fall 2021, Spring and Fall 2022, and Fall 2023.*
- *Computational Methods for Data Mining, Department of Computer Engineering, Sharif University of T*
- *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.*
- *Strategic Decision-Making in Interactive Environments, Bank Saderat, 2019.*

Publications

Theses

۱. S. Hossein Ghorban, **Computational Models for Decision Making in Multi-environments**, PhD Thesis, ۲۰۱۸, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
۲. S. Hossein Ghorban, **Adjacency Matrix and Incidence Matrix of a Graph**, MSc Thesis, ۲۰۰۶, Department of Mathematics, Amirkabir University of Technology, Tehran, Iran.

Journal Papers

۱. S. Hossein Ghorban, B. Hesaam, H. Sarbazi-Azad, **A Cost-Performance Scalability Measure for Interconnection Networks and a Novel Scalable Cube-Based Topology**, *Journal of Interconnection Networks*, Accepted, ۲۰۲۰.

۲. 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.۲۰۲۲, No.۱۱, pp.۱۱۲-۱۲۳, ۲۰۲۲.
۳. S. Hossein Ghorban, F. Baharifard, B. Hesaam, M. Zarei, H. Sarbazi-Azad, **Linearization error in synchronization of Kuramoto oscillators**, *Applied Mathematics and Computation*, Vol.۴۱۱, No.۱, pp.۱۱۲-۱۲۳, ۲۰۲۱.
۴. M. Barkhordar, M. Rashidinia, Sh. Sheikhha, N. Mahani, S. Hossein Ghorban, M. Sadrosadati, H. Sarbazi-Azad, **Linear Algebra for Graph Processing on Gpus: Opportunities and Limitations**, *SSRN 442390*, ۲۰۲۰.
۵. H. Esmailian, E. Ghorbani, S. Hossein Ghorban and G.B. Khosrovshahi, **Maximal Graphs With Respect to Rank**, *Discrete Mathematics*, Vol.۳۴۴, No.۱, pp.۱۱۲-۱۲۳, ۲۰۲۱.
۶. S. Akbari, S. Hossein Ghorban, S. Malik, and S. Qajar, **Conditions for Regularity and for γ -Connectivity of Toeplitz Graphs**, *Utilitas Mathematica*, Vol.۱۱۰, No.۱, pp.۳۰۵-۳۱۴, ۲۰۱۹.
۷. A. Edalat, S. Hossein Ghorban and A. Ghoroghi, **Ex Post Nash Equilibrium in Linear Bayesian Games for Decision Making in Multi-Environments**, *Games*, Vol.۹, No.۴, pp.۸۵-۱۰۹, ۲۰۱۸.
۸. S. Akbari, A. Abdolghafurian, S. Hossein Ghorban, and S. Qajar, **Dominating Coloring Number of Claw-free Graphs**, *Electronic Notes in Discrete Mathematics*, Vol.۴۵, No.۱, pp.۹۱-۹۷, ۲۰۱۴.
۹. S. Hossein Ghorban, **Toeplitz Graph Decomposition**, *Transactions on Combinatorics*, Vol.۱, No.۴, pp.۳۵-۴۱, ۲۰۱۲.

Conference Papers

۱. H. Esfandiari, S. Hossein Ghorban, R HosseiniDolatabadi, M. Qaempanah, **What is the chance of being so unfair?**, *ACM, WWW 2025*.
۲. M. H. Bateni, H. Esfandiari, S. Hossein Ghorban, A. Pasha Montaseri, **Improved Active Covering via Density-Based Space Transformation**, *ACM, KDD 2024*.
۳. 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.
۴. S. Hossein Ghorban and B. Hesaam, **Product Portfolio Management in Competitive Environment**, *The ۱۹th World Congress of the Game Theory Society*, ۱۹-۲۳ July ۲۰۲۱, Budapest, Hungary.
۵. S. Hossein Ghorban, **Strategic Technology Adoption in Networked Markets**, *Proceedings of the Future Technologies Conference (FTC)*, November ۱۳-۱۴, ۲۰۱۸, Vancouver, Canada.
۶. A. Edalat, S. Hossein Ghorban, **Computing Mixed Bayesian Nash Equilibrium for Double Games**, *The fifth World Congress of the Game Theory Society*, July ۲۴ - ۲۸, ۲۰۱۶, Maastricht, the Netherlands.
۷. 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.

Professional Services/Membership

Organizing Committee Member

- *National Informatics Conference (NIC)*, January ۰۴-۰۵, ۲۰۲۳, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, January ۱۲-۱۳, ۲۰۲۲, 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 ۰۴-۰۵, ۲۰۲۳, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, January ۱۲-۱۳, ۲۰۲۲, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, December ۲۳-۲۴, ۲۰۲۰, IPM, Tehran, Iran.
- *National Informatics Conference (NIC)*, January ۱۵-۱۶, ۲۰۲۰, IPM, Tehran, Iran.

Talks

۱. **Decision Making in daily life: a polymatrix game approach**, *Workshop of Graph Theory and its Applications*, IPM, Isfahan, Iran, January ۲۰۲۱.
۲. **Decision Making in Interactive Environments**, *IPM Seminar on Computer Science*, IPM, Tehran, Iran, December ۲۰۲۰.
۳. **What is Nash equilibrium?** *IPM Weekly meeting on Combinatorics and Computing*, IPM, Tehran, Iran, February ۲۰۱۹.
۴. **Multi-games for Decision Making in Multi-environments**, *CWI-DIAMANT Seminar Combinatorics and Optimization*, Centrum Wiskunde & Informatica (CWI), Amsterdam, the Netherlands, May ۲۰۱۷.
۵. **Multi-games for Decision Making in Multi-environments**, *MLSE Seminar*, Maastricht University, Maastricht, the Netherlands, April ۲۰۱۷.
۶. **A Bayesian Model for Decision Making in Multi-environments**, *IPM Weekly Seminar on Combinatorics and Computing*, IPM, Tehran, Iran, June ۲۰۱۷.
۷. **Maximal Graphs with Respect to Rank**, *ICTP-IPM Workshop and Conference in Combinatorics and Graph Theory*, Trieste, Italy, September ۲۰۱۲.

Skills and Interests

I am familiar with:

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

Referees

Dr H. Sarbazi-Azad, Professor,
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Dr A. Edalat, Professor,
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Dr G. B. Khosrovshahi, Professor,
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Dr. Gholamhossein Hamedani,
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