

ASSISTANT PROFESSOR

Marzieh Malekimajd

Department of Computer Engineering
Iran University of Science and Technology (IUST), Tehran, Iran

Biography

I am an Assistant Professor in the Department of Computer Engineering at Iran University of Science and Technology (IUST), where I have been a faculty member since 2019. My research lies at the intersection of cloud computing, distributed systems, and resource optimization, with a particular focus on latency minimization, scheduling algorithms, and emerging paradigms such as mobile edge computing and IoT.

I received my PhD in Computer Engineering from Sharif University of Technology in 2018, where I also completed my MSc (2011) and BSc (2009). During my doctoral studies, I spent five months as a visiting researcher at Politecnico di Milano, Italy, and then held a postdoctoral position at the Institute for Research in Fundamental Sciences (IPM), Tehran.

PhD, 2018
Sharif University of Technology

Asst. Professor, 2019–
IUST, Tehran

14 Publications
Journals & Conferences

7 MSc Graduates
Thesis Supervision

Education

2012–2018

PhD in Computer Engineering

Sharif University of Technology, Tehran, Iran

Thesis: *VMs Allocation Algorithms for Latency Minimization in Cloud Environments*

2009–2011

MSc in Computer Engineering

Sharif University of Technology, Tehran, Iran

Thesis: *On Some Properties of (OTIS) Swapped Networks and Similar Networks*

2005–2009

BSc in Computer Engineering

Sharif University of Technology, Tehran, Iran

Thesis: *A Survey of Secret Sharing Schemes Based on Graphs*

Academic Appointments

2019–PRESENT

Assistant Professor

Department of Computer Engineering, IUST, Tehran, Iran

2018–2019

Postdoctoral Researcher

School of Computer Science, IPM (Institute for Research in Fundamental Sciences), Tehran, Iran

2014 (5 MONTHS)

Visiting Scholar

DEIB, Politecnico di Milano, Milan, Italy

Honors & Awards

- Selected for the PhD program as a talented student, Department of Computer Engineering, Sharif University of Technology, 2012

- 7th place in the National M.Sc. Entrance Exam in Computer Science, Iran, 2009
- 7th place in the National Informatics Competition for University Students, Iran, 2009
- Silver Medal, 14th Iranian National Informatics Olympiad, Iran, 2004

Research Interests

My research addresses fundamental challenges in resource management for large-scale distributed systems. Core topics include:

Cloud Computing

VM allocation, capacity planning, MapReduce optimization, and SLA-aware resource management in cloud environments.

Distributed & Edge Computing

Service placement in mobile edge computing, peer-to-peer cloud systems, locality-aware scheduling, and latency minimization.

Scheduling & Optimization

Combinatorial optimization, bin-packing, deadline-aware scheduling, and metaheuristic approaches (ACO, GA) for IoT resource allocation.

Machine Learning Applications

Deep learning for anomaly detection in HPC, reinforcement learning for workflow scheduling, and ensemble methods for stream processing systems.

Security & Blockchain

Intrusion detection systems for IoT, blockchain-based e-voting, and security in distributed environments.

Social Media & Web Mining

Semantic event detection on Twitter, graph-based methods for real-time event tracking, and news story alignment.

Publications

JOURNAL ARTICLES

2023

Meddal: Meeting Deadlines and Data Locality via Bin Packing in Cloud Environment

M. Malekimajd

Computing, vol. 105, no. 2, pp. 249–273. DOI: 10.1007/s00607-022-01122-0

2022

A Survey on Cloud Computing Scheduling Algorithms

M. Malekimajd and A. Safarpoor-Dehkordi

Multiagent and Grid Systems, vol. 18, no. 2, pp. 119–148. DOI: 10.3233/MGS-220217

2018

An Optimization Framework for the Capacity Allocation and Admission Control of MapReduce Jobs in Cloud Systems

M. Malekimajd, D. Ardagna, M. Ciavotta, E. Gianniti, M. Passacantando, and A. Rizzi

Journal of Supercomputing, 2018. DOI: 10.1007/s11227-018-2426-2

2018

Network and Application-Aware Cloud Service Selection in Peer-Assisted Environments

S. Askarnejad, **M. Malekimajd**, and A. Movaghar

IEEE Transactions on Cloud Computing, 2018. DOI: 10.1109/TCC.2018.2865560

2018

SLoPCloud: An Efficient Solution for Locality Problem in Peer-to-Peer Cloud Systems

M. Gharib, **M. Malekimajd**, and A. Movaghar

Algorithms, vol. 11, no. 10, p. 150. DOI: 10.3390/a11100150

2018

Minimizing Data Access Latencies for Virtual Machine Assignment in Cloud Systems

M. Malekimajd and A. Movaghar

IEEE Transactions on Services Computing, vol. 11, no. 1, pp. 76–88. DOI: 10.1109/TSC.2017.2735972

2015

Optimal MapReduce Job Capacity Allocation in Cloud Systems

M. Malekimajd, D. Ardagna, M. Ciavotta, A. Rizzi, and M. Passacantando

ACM SIGMETRICS Performance Evaluation Review, vol. 42, no. 4, pp. 51–61. DOI: 10.1145/2788402.2788410

2015

Minimizing Latency in Geo-Distributed Clouds

M. Malekimajd, A. Movaghar, and S. Hosseinimotlagh

Journal of Supercomputing, vol. 71, no. 12, pp. 4423–4445. DOI: 10.1007/s11227-015-1538-1

2015

Fast Aggregation Scheduling in Wireless Sensor Networks

H. Yousefi, **M. Malekimajd**, M. Ashouri, and A. Movaghar

IEEE Transactions on Wireless Communications, vol. 14, no. 6, pp. 3402–3414. DOI: 10.1109/TWC.2015.2405060

2011

Pancyclicity of OTIS (Swapped) Networks Based on Properties of the Factor Graph

M. Malekimajd, M. R. H. Farahabady, A. Movaghar, and H. Sarbazi-Azad

Information Processing Letters, vol. 111, no. 23-24, pp. 1114–1119. DOI: 10.1016/j.ipl.2011.07.020

CONFERENCE PAPERS

2025

Intelligent Resource Allocation in IoT: An ACO-GA Approach

H. Vafaei, N. Haghighi, and **M. Malekimajd**

Proc. 29th International Computer Conference (CSICC), pp. 1–5. DOI: 10.1109/CSICC65765.2025.10967451

2022

Sem-TED: Semantic Twitter Event Detection and Adapting with News Stories

Z. Akhgari, **M. Malekimajd**, and H. Rahmani

Proc. 8th International Conference on Web Research (ICWR), pp. 61–69. DOI: 10.1109/ICWR54782.2022.9786234

2022

Tedgram: Twitter Event Detection Using Graph-Based Methods

Z. Akhgari, **M. Malekimajd**, and H. Rahmani

Proc. 8th International Conference on Web Research (ICWR), pp. 16–23. DOI: 10.1109/ICWR54782.2022.9786233

2014

Optimal Capacity Allocation for Executing MapReduce Jobs in Cloud Systems

M. Malekimajd, A. Rizzi, D. Ardagna, M. Ciavotta, M. Passacantando, and A. Movaghar

Proc. 16th International Symposium on Symbolic and Numeric Algorithms (SYNASC), pp. 385–392. DOI: 10.1109/SYNASC.2014.58

Teaching Experience

Iran University of Science and Technology (IUST), Tehran, Iran Sep 2019 – Present

COURSE	LEVEL	NOTES
Advanced Algorithms	M.Sc.	NP-completeness and approximation algorithms with real-world applications
Design and Analysis of Algorithms	B.Sc.	Core CLRS material; 300+ students across 6 semesters
Advanced Programming in C#	B.Sc.	Object-oriented programming; 300+ students across 8 semesters
Introduction to Programming in C/C++	B.Sc.	Fundamental programming concepts; 250+ students across 6 semesters
Object-Oriented Systems Design	B.Sc.	—
Introduction to Programming Competitions	B.Sc.	Department teams won multiple awards in regional ICPC competitions
Orientation to Academic Skills & Student Success	B.Sc.	—

Sharif University of Technology, Tehran, Iran 2011–2018

- Instructor: Programming in C++ and Pascal
- Teaching Assistant: Design of Algorithms, Data Structures and Algorithms, Introduction to Automata Theory, Programming in C/C++

Graduate Student Supervision

MSc thesis supervision at Iran University of Science and Technology:

2025 **Seyyed Hossein Naserizade Ghamsari**

A Hybrid-Blockchain-Based E-Voting System: Ensuring Scalability and Security in Elections

2025 **Masoud Rabiei**

A Deep Reinforcement Learning-Based Workflow Scheduling Approach for Energy Optimization in Cloud Computing Environments

2025 **Ali Rahnama Alamdari**

Improving Blockchain Efficiency by Combining Hash Functions Based on NP-Hard Problems in the Proof-of-Work Consensus Mechanism

2024 **Parisa Alaie**

A Deep Learning Model for Anomaly Detection in High-Performance Computing Systems

2024 **Ahmed Jabbar Qasim Al-Khammasi**

Improving Intrusion Detection in the Internet of Things Using Deep Neural Networks

2024 **Isaac Salmanpour Mahlabani**

Service Placement Problem in Mobile Edge Computing with the Help of User Mobility Prediction

2024 **Sajjad Safari Mohammadi**

An Ensemble Learning-Based Approach for Elastic Stream Processing Systems

Research Opportunities

I welcome motivated MSc and PhD students interested in cloud computing, distributed systems, scheduling algorithms, and machine learning applications.

Prospective Students

If you are interested in my research areas, please email me your CV, transcripts, and a brief statement of your research interests.

Research Collaboration

I welcome collaboration with researchers and industry on projects related to resource optimization and distributed systems.

Get in Touch

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PROFILES

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Official IUST Profile

References

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Dr. Reza Entezari-Maleki

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Dr. Mohammed Gharib

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