REZA ENTEZARI-MALEKI

Room #320, CE Dept., IUST
Narmak, Tehran, Iran. Postal Code: 16846-13114
http://webpages.iust.ac.ir/entezari/

Phone: (+98) 914-121-3189
Email: entezari@iust.ac.ir
Alt: reza.em@gmail.com

PARTICULARS

EDUCATION

INESC-ID, Instituto Superior Tecnico (IST), Universidade de Lisboa — Lisbon, Portugal
Postdoctoral Fellowship in Computer Engineering — *2015–2016*

School of Computer Science, Institute for Research in Fundamental Sciences (IPM) — Tehran, Iran
Postdoctoral Fellowship in Computer Science — *2015–2018*

Sharif University of Technology (SUT) — Tehran, Iran
Ph.D. in Computer Engineering — *2009–2014*
Distinction in Research

Iran University of Science and Technology (IUST) — Tehran, Iran
M.S. in Computer Engineering — *2007–2009*
Distinction in Education

Iran University of Science and Technology (IUST) — Tehran, Iran
B.S. in Computer Engineering — *2003–2007*
Distinction in Education

WORK EXPERIENCE

2018–Now. Assistant Professor, Department of Computer Engineering, Iran University of Science and Technology, (IUST), Tehran, Iran.

2018–Now. Associate Researcher, INESC-ID, Instituto Superior Técnico (IST), Universidade de Lisboa, Lisbon, Portugal.

PROFESSIONAL APPOINTMENT

May 2023 – Now. Head of Software Group, Department of Computer Engineering, Iran University of Science and Technology, (IUST), Tehran, Iran.

September 2021 – May 2023. Dean of Education Office, Department of Computer Engineering, Iran University of Science and Technology, (IUST), Tehran, Iran.

May 2019 – May 2022. Coach of ACM-ICPC Programming and Computer Science Olympiad teams, Department of Computer Engineering, Iran University of Science and Technology, (IUST), Tehran, Iran.

March 2018 – September 2023. Member of Direction Board, Computer Society of Iran (CSI), Tehran, Iran.

RESEARCH VISITS

Visiting Professor Lisbon, Portugal
Instituto Superior Tecnico (IST), *June 2022–August 2022*
Universidade de Lisboa

Visiting Professor Seoul, South Korea
Department of Computer Science and Engineering, *June 2019–August 2019*
Seoul National University

Visiting Researcher Seoul, South Korea
Department of Computer Science and Engineering, *April 2017–July 2017*
Seoul National University

Visiting Post-doc Lisbon, Portugal
Instituto Superior Tecnico (IST), *November 2015–February 2016*
Universidade de Lisboa

Visiting Researcher Durham, NC, USA
Electrical and Computer Engineering Department, *January 2013–April 2013*
Duke University

Visiting Researcher Seoul, South Korea
Department of Computer Science and Engineering, *March 2012 –June 2012*
Seoul National University

RESEARCH INTERESTS

Analytical Modeling and Evaluation

Performance and Dependability Analysis

Distributed Computing Systems (Cloud/Fog/Edge)

Resource Allocation and Task Scheduling Algorithms

ACADEMIC HONORS

- **2018.** Achieving the prize of the Iran's National Elites Foundation for young professors (Dr. Kazemi Ashtiani's prize).

- **2009.** Achieving the prize of the Iran's National Elites Foundation for Ph.D. degree.

- **2009.** Ranked 1st among Computer Engineering (Software) graduated M.S. students in the CE Department of Iran University of Science and Technology in 2007-2009 with GPA 18.83/20.

- **2007.** Achieving the prize of the Iran's National Elites Foundation for Master degree.

- **2007.** Ranked 1st (achieving Gold Medal) in the 12th Iranian Scientific Olympiad on Computer Engineering.

- **2007.** Ranked 1st among Computer Engineering (Software) graduated B.S. students in the CE Department of Iran University of Science and Technology in 2003-2007 with GPA 17.6/20.

- **2003.** Ranked 30th among more than 80,000 participants in National Entrance Exam of Universities (Konkour), Iran.

TEACHING EXPERIENCE

GRADUATE COURSE

- **Cloud Computing.** Department of Computer Engineering, Iran University of Science and Technology (Fall 2019, 2020 and 2022).

- **Performance Evaluation of Computer Systems.** Department of Computer Engineering, Iran University of Science and Technology (e-learning) (Fall 2019 and 2020).

- **Dependable Software Systems.** Department of Computer Engineering, Iran University of Science and Technology-2nd Campus (Spring 2019).

UNDERGRADUATE COURSE

- **Theory of Languages and Automata.** Department of Computer Engineering, Iran University of Science and Technology (Spring 2019-2023, and Fall 2020).

- **Operating Systems.** Department of Computer Engineering, Iran University of Science and Technology (Spring 2019-2023, and Fall 2021 and 2022).

- **Design and Analysis of Algorithms.** Department of Computer Engineering, Iran University of Science and Technology (Fall 2020).

- **Discrete Mathematics.** Department of Computer Engineering, Iran University of Science and Technology (Fall 2019 and Spring 2020).

- **Fundamentals of Programming.** Department of Computer Engineering, Iran University of Science and Technology (Fall 2018, 2019, and 2021).

- **Computer Simulation.** Department of Computer Engineering, Sharif University of Technology (Fall 2014 and Spring 2015).

- **Fundamentals of Programming.** Department of Computer Engineering, Sharif University of Technology (Fall 2011 to Fall 2014).

PUBLICATIONS

INTERNATIONAL JOURNALS

1. M. Rezakhani, N. Sarrafzadeh-Ghadimi, R. Entezari-Maleki, L. Sousa, and A. Movaghar, "Energy-aware QoS-based dynamic virtual machine consolidation approach based on RL and ANN," *to appear in* Cluster Computing. DOI: 10.1007/s10586-023-03983-2.

2. M.-M. Aseman-Manzar, S. Karimian-Aliabadi, R. Entezari-Maleki, B. Egger, and A. Movaghar, "Cost-aware Resource Recommendation for DAG-based Big Data Workflows: An Apache Spark Case Study," *to appear in* IEEE Transactions on Services Computing. DOI: 10.1109/TSC.2022.3203010.

3. S. Karimian-Aliabadi, M.-M. Aseman-Manzar, R. Entezari-Maleki, D. Ardagna, B. Egger, and A. Movaghar, "Fixed-point Iteration Approach to Spark Scalable Performance Modeling and Evaluation," *to appear in* IEEE Transactions on Cloud Computing. DOI: 10.1109/TCC.2021.3119943.

4. A. Naghash Asadi, M. Abdollahi Azgomi, R. Entezari-Maleki, "Evaluation of the functionality of mobile wireless sensor networks using stochastic reward nets," *Scientia Iranica*, Vol. 30, No. 1, pp. 91-103, 2023.

5. N. Sarrafzade, R. Entezari-Maleki, and L. Sousa, "A Genetic-based Approach for Service Placement in Fog Computing," *The Journal of Supercomputing*, Vol. 78, No. 8, pp. 10854-10875, 2022.

6. E. Ataie, R. Entezari-Maleki, S.E Etesami, B. Egger, L. Sousa, and A. Movaghar, "Modeling and Evaluation of Dispatching Policies in IaaS Cloud Data Centers using SANs," *Sustainable Computing: Informatics and Systems*, Vol. 33, pp. 100617, 2022.

7. L. Rashidi, A. Dalili-Yazdi, R. Entezari-Maleki, L. Sousa, and A. Movaghar, "Modeling Epidemic Routing: Capturing Frequently Visited Locations While Preserving Scalability," *IEEE Transactions on Vehicular Technology*, Vol. 70, No. 3, pp. 2713-2727, 2021.

8. A.N. Asadi, M. A. Azgomi, and R. Entezari-Maleki, "Model-based Evaluation of the Power versus Performance of Network Routing Algorithms," *Computing*, Vol. 103, pp. 1723-1746, 2021.

9. M.F. Shoyari, E. Ataie, R. Entezari-Maleki, and A. Movaghar, "Availability Modeling in Redundant Open-Stack Private Clouds," *Software: Practice and Experience*, Vol. 51, No. 6, pp. 1218-1241, 2021.

10. R. Entezari-Maleki, M. Gharib, S. Rezaei, K. S. Trivedi, and A. Movaghar, "Modeling and Evaluation of Multi-hop Wireless Networks using SRNs," *IEEE Transactions on Network Science and Engineering*, Vol. 8, No. 1, pp. 662-679, 2020.

11. R. Entezari-Maleki, Y. Cho, and B. Egger, "Evaluation of Memory Performance in NUMA Architectures using Stochastic Reward Nets," *Journal of Parallel and Distributed Computing*, Vol. 144, pp. 172-188, 2020.

12. G. Taheri, A. Khonsari, R. Entezari-Maleki, and L. Sousa, "A Hybrid Algorithm for Task Scheduling on Heterogeneous Multiprocessor Embedded Systems," *Applied Soft Computing*, Vol. 91, pp. 106202, 2020.

13. A.N. Asadi, M.A. Azgomi, and R. Entezari-Maleki, "Analytical Evaluation of Resource Allocation Algorithms and Process Migration Methods in Virtualized Systems," *Sustainable Computing: Informatics and Systems*, Vol. 25, pp. 1-16, 2020.

14. G. Taheri, A. Khonsari, R. Entezari-Maleki, and L. Sousa, "Temperature-aware Core Management in MP-SoCs: Modelling and Evaluation using MRMs," *IET Computers & Digital Techniques*, Vol. 14, No. 1, pp. 17-26, 2020.

15. S. Karimian-Aliabadi, D. Ardagna, R. Entezari-Maleki, E. Gianniti, and A. Movaghar, "Analytical Composite Performance Models for Big Data Applications," *Journal of Network and Computer Applications*, Vol. 142, pp. 63-75, 2019.

16. L. Rashidi, R. Entezari-Maleki, D. Chatzopoulos, P. Hui, K.S. Trivedi, and A. Movaghar, "Performance Evaluation of Epidemic Content Retrieval in DTNs with Restricted Mobility," *IEEE Transactions on Network and Service Management*, Vol. 16, No. 2, pp. 701-714, 2019.

17. A.N. Asadi, M.A. Azgomi, and R. Entezari-Maleki, "Unified Power and Performance Analysis of Cloud Computing Infrastructure using Stochastic Reward Nets," *Computer Communications*, Vol. 138, pp. 67-80, 2019.

18. E. Ataie, R. Entezari-Maleki, L. Rashidi, K. S. Trivedi, D. Ardagna, and A. Movaghar, "Hierarchical Stochastic Models for Performance, Availability, and Power Consumption Analysis of IaaS Clouds," *IEEE Transactions on Cloud Computing*, Vol. 7, No. 4, pp. 1039-1056, 2019.

19. A.N. Asadi, M.A. Azgomi, and R. Entezari-Maleki, "Evaluation of the Impacts of Failures and Resource Heterogeneity on the Power Consumption and Performance of IaaS Clouds," *The Journal of Supercomputing*, Vol. 75, No. 5, pp. 2837-2861, 2019.

20. G. Taheri, A. Khonsari, R. Entezari-Maleki, M. Baharloo, and L. Sousa, "Temperature-aware Dynamic Voltage and Frequency Scaling enabled MPSoC Modeling using Stochastic Activity Networks," *Microprocessors and Microsystems*, Vol. 60, pp. 15-23, 2018.

21. E. Ataie, R. Entezari-Maleki, S.E. Etesami, B. Egger, D. Ardagna, and A. Movaghar, "Power-Aware Performance Analysis of Self-Adaptive Resource Management in IaaS Clouds," *Future Generation Computer Systems*, Vol. 86, pp. 134-144, 2018.

22. R. Entezari-Maleki, K.S. Trivedi, L. Sousa, and A. Movaghar, "Performability-based Workflow Scheduling in Grids," *The Computer Journal*, Vol. 61, No. 10, pp. 1479-1495, 2018.

23. A. Dehlaghi-Ghadim, R. Entezari-Maleki, and A. Movaghar, "Cost-Efficient Scheduling for Deadline Constrained Grid Workflows," *Computing and Informatics*, Vol. 37, No. 4, pp. 838-864, 2018.

24. R. Entezari-Maleki, M. Gharib, M. Khosravi, and A. Movaghar, "IDS Modelling and Evaluation in WANETs against Black/Grey-hole Attacks using Stochastic Models," *International Journal of Ad Hoc and Ubiquitous Computing*, Vol. 27, No. 3, pp. 171-186, 2018.

25. R. Entezari-Maleki, S. E. Etesami, N. Ghorbani, A. A. Niaki, L. Sousa, and A. Movaghar, "Modeling and Evaluation of Service Composition in Commercial Multi-Clouds using Timed Colored Petri Nets," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, Vol. 50, No. 3, pp. 947-961, 2017.

26. R. Entezari-Maleki, L. Sousa, and A. Movaghar, "Performance and Power Modeling and Evaluation of Virtualized Servers in IaaS Clouds," *Information Sciences*, Vol. 394-395, pp. 106-122, 2017.

27. R. Entezari-Maleki, M. Bagheri, S. Mehri, and A. Movaghar, "Performance Aware Scheduling Considering Resource Availability in Grid Computing," *Engineering with Computers*, Vol. 33, No. 2, pp. 191-206, 2017.

28. R. Entezari-Maleki, K. S. Trivedi, and A. Movaghar, "Performability Evaluation of Grid Environments using Stochastic Reward Nets," *IEEE Transactions on Dependable and Secure Computing*, Vol. 12, No. 2, pp. 204-216, 2015.

29. M.E. Esmaili, R. Entezari-Maleki, and A. Movaghar, "Improved Region-Based TCTL Model Checking of Time Petri Nets," *Journal of Computing Science and Engineering*, Vol. 9, No. 1, pp. 9-19, 2015.

30. R. Entezari-Maleki, A. Mohammadkhan, H. Y. Yeom, and A. Movaghar, "Combined Performance and Availability Analysis of Distributed Resources in Grid Computing," *The Journal of Supercomputing*, Vol. 69, No. 2, pp. 827-844, 2014.

31. S. Kardani-Moghaddam, R. Entezari-Maleki, and A. Movaghar "A Cost Efficient Two-level Market Model for Task Scheduling Problem in Grid Environment," *Iranian Journal of Science & Technology, Transactions of Electrical Engineering*, Vol. 38, No. E1, pp. 73-90, 2014.

32. N. Tabbaa, R. Entezari-Maleki, and A. Movaghar, "Reduced Communications Fault Tolerant Task Scheduling Algorithm for Multiprocessor Systems," *Procedia Engineering*, Vol. 29, pp. 3820-3825, 2012.

33. S. Kardani-Moghaddam, F. Khodadadi, R. Entezari-Maleki, and A. Movaghar, "A Hybrid Genetic Algorithm and Variable Neighborhood Search for Task Scheduling Problem in Grid Environment," *Procedia Engineering*, Vol. 29, pp. 3808-3814, 2012.

34. S. Parsa and R. Entezari-Maleki, "A Queuing Network Model for Minimizing the Total Makespan of Computational Grids," *Computers & Electrical Engineering*, Vol. 38, No. 4, pp. 827-839, 2012.

35. R. Entezari-Maleki and A. Movaghar, "A Probabilistic Task Scheduling Method for Grid Environments," *Future Generation Computer Systems*, Vol. 28, No. 3, pp. 513-524, 2012.

36. S. Parsa and R. Entezari-Maleki, "Task Dispatching Approach to Reduce the Number of Waiting Tasks in Grid Environments," *The Journal of Supercomputing*, Vol. 59, No. 1, pp. 469-485, 2012.

37. R. Entezari-Maleki and A. Movaghar, "A Genetic Algorithm to Increase the Throughput of the Computational Grids," *International Journal of Grid and Distributed Computing*, Vol. 4, No. 2, pp 11-24, 2011.

38. M.A. Azgomi and R. Entezari-Maleki, "Task Scheduling Modelling and Reliability Evaluation of Grid Services using Coloured Petri Nets," *Future Generation Computer Systems*, Vol. 26, No. 8, pp. 1141-1150, 2010.

39. S. Parsa and R. Entezari-Maleki, "RASA: A New Grid Task Scheduling Algorithm," *International Journal of Digital Content Technology and its Applications*, Vol. 3, No. 4, pp. 91-99, 2009.

40. R. Entezari-Maleki, A. Rezaei and B. Minaei-Bidgoli, "Comparison of Classification Methods Based on the Type of Attributes and Sample Size," *Journal of Convergence Information Technology*, Vol. 4, No. 3, pp. 94-102, 2009.

INTERNATIONAL CONFERENCES

41. A. Shamsadini, and R. Entezari-Maleki, "Time-aware MDP-based Service Migration in 5G Mobile Edge Computing," *The 27th International Computer Conference, Computer Society of Iran (CSICC)*, IEEE, pp. 1-5, Tehran, Iran, February 23-24, 2022.

42. M. Khoshbazm Farimani, S. Karimian-Aliabadi, and R. Entezari-Maleki, "Computation Offloading Strategy for Autonomous Vehicles," *The 27th International Computer Conference, Computer Society of Iran (CSICC)*, IEEE, pp. 1-6, Tehran, Iran, February 23-24, 2022.

43. L. Rashidi, A. Dalili-Yazdi, R. Entezari-Maleki, L Sousa, and Ali Movaghar, "Scalable Performance Analysis of Epidemic Routing Considering Skewed Location Visiting Preferences," *The IEEE 27th International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS 2019)*, IEEE, pp. 201-213, Rennes, France, October 21-25, 2019.

44. S. Karimian-Aliabadi, D. Ardagna, R. Entezari-Maleki, and A. Movaghar, "Scalable Performance Modeling and Evaluation of MapReduce Applications," *The High Performance Computing and Big Data Analytic (TopHPC 2019)*, Communications in Computer and Information Science (CCIS), Springer press, Tehran, Iran, April 23-25, 2019.

45. M. Abdoli, R. Entezari-Maleki, and A. Movaghar, "A Rank-based Hybrid Algorithm for Scheduling Data- and Computation-intensive Jobs in Grid Environments," in *Intelligent Computing, Networking, and Informatics*, D.P. Mohapatra and S. Patnaik, Eds., Advances in Intelligent Systems and Computing (AISC), Berlin Heidelberg, Springer, Vol. 243, pp 785796, 2014.

46. M. Roohitavaf, R. Entezari-Maleki, and A. Movaghar, "Availability Modeling and Evaluation of Cloud Virtual Data Centers," *The 19th IEEE International Conference on Parallel and Distributed Systems (ICPADS 2013)*, IEEE, pp. 675-680, Seoul, South Korea, December 1518, 2013.

47. M.H. Mobini, R. Entezari-Maleki, and A. Movaghar, "Biogeography-Based Optimization of Makespan and Reliability in Grid Computing Systems," *The IV International Congress on Ultra Modern Telecommunications and Control Systems (ICUMT 2012)*, IEEE, pp. 336-342, St. Petersburg, Russia, October 35, 2012.

48. R. Entezari-Maleki and A. Movaghar, "Availability Modeling of Grid Computing Environments Using SANs," *The 19th International Conference on Software, Telecommunications and Computer Networks (SoftCOM 2011)*, IEEE, pp. 1-6, Split, Croatia, September 1517, 2011.

49. Z. Mousavinasab, R. Entezari-Maleki, and A. Movaghar, "A Bee Colony Task Scheduling Algorithm in Computational Grids," *The International Conference on Digital Information Processing and Communication (ICDIPC 2011)*, Communications in Computer and Information Science (CCIS), Vol. 188, Springer press, pp. 200-210, Ostrava, Czech Republic, July 7-9, 2011.

50. N. Tabbaa, R. Entezari-Maleki, and A. Movaghar, "A Fault Tolerant Scheduling Algorithm for DAG Applications in Cluster Environments," *The International Conference on Digital Information Processing and Communication (ICDIPC 2011)*, Communications in Computer and Information Science (CCIS), Vol. 188, Springer press, pp. 189-199, Ostrava, Czech Republic, July 7-9, 2011.

51. R. Entezari-Maleki and A. Movaghar, "A Genetic-Based Scheduling Algorithm to Minimize the Makespan of the Grid Applications," *Grid and Distributed Computing Conference (GDC 2010)*, Communications in Computer and Information Science (CCIS), Vol. 121, Springer press, pp. 22-31, Jeju Island, South Korea, December 13-15, 2010.

52. R. Entezari-Maleki, S.M. Iranmanesh and B. Minaei-Bidgoli, "An Investigation on the Impact of Missing Values Imputation over the Prediction Efficacy of the Classification Methods," *International Conference of Software Engineering & Computer Systems (ICSECS 2009)*, Malaysia, October 19-21, 2009.

53. R. Entezari-Maleki, S.M. Iranmanesh and B. Minaei-Bidgoli, "An Experimental Investigation of the Effect of Discrete Attributes on the Precision of Classification Methods," *The 3rd International Conference on Information and Communication Technologies (ICICT 2009)*, IEEE, pp. 215-220, Pakistan, August 15-16, 2009.

54. S. Parsa and R. Entezari-Maleki, "Modeling and Throughput Analysis of Grid Task Scheduling Using Stochastic Petri Nets," *The 2009 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA 2009)*, pp. 458-464, Las Vegas, USA, July 13-16, 2009.

CONFERENCE TALKS

1. "Time-aware MDP-based Service Migration in 5G Mobile Edge Computing", *The 27th International Computer Conference, Computer Society of Iran (CSICC)*, Tehran, Iran, 23 February, 2022.

2. "Computation Offloading Strategy for Autonomous Vehicles", *The 27th International Computer Conference, Computer Society of Iran (CSICC)*, Tehran, Iran, 23 February, 2022.

3. "Service Composition Modeling in Cloud Manufacturing Systems", *The 9th International Conference on Material and Manufacturing Technology (ICMMT 2018)*, Moscow, Russia, 28 April, 2018.

4. "Biogeography-Based Optimization of Makespan and Reliability in Grid Computing Systems", *The IV International Congress on Ultra Modern Telecommunications and Control Systems (ICUMT 2012)*, St. Petersburg, Russia, 3 October 2012.

5. "A Genetic-Based Scheduling Algorithm to Minimize the Makespan of the Grid Applications", *Grid and Distributed Computing Conference (GDC 2010)*, Jeju Island, South Korea, 13 December, 2010.

PROFESSIONAL ACTIVITIES

- **Executive Chair** CSICC2020, ICSPIS2021, CSICC2022.

- **Technical Program Committee Member**, FSEN2015, CSICC2018, CSICC2020, ICSPIS2022, CSICC2023.

SERVICE

- **Reviewer (Journals)** - IEEE Transactions on Mobile Computing, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Service Computing, IEEE Transactions on Computers, IEEE Transactions on Dependable and Secure Computing, IEEE Transactions on Network and Service Management, IEEE Transactions on Systems, Man, and Cybernetics: Systems, Scientific Reports, Future Generation Computer Systems, Journal of Systems and Software, Journal of Network and Computer Applications, Simulation Modelling Practice and Theory, Computers & Electrical Engineering, The Computer Journal, Engineering with Computers, Cluster Computing, Journal of Supercomputing.

REFERENCES

Dr. Ali Movaghar
Professor
Dept. of Computer Engineering
Sharif University of Technology
Tehran, Iran
Phone: (+98) 21-6616-6628
movaghar@sharif.edu

Dr. Leonel Sousa
Professor
Dept. of Electrical and Computer Engineering
Universidade de Lisboa
Lisbon, Portugal
Phone: (+351) 213100210
leonel.sousa@ist.utl.pt

Dr. Kishor S. Trivedi
Professor
Dept. of Electrical and Computer Engineering
Duke University
Durham, NC, USA
Phone: (+1) 919-660-5269
ktrivedi@duke.edu

Dr. Bernhard Egger
Professor
Dept. of Computer Science and Engineering
Seoul National University
Seoul, South Korea
Phone: (+82) 2-880-1819
bernhard@csap.snu.ac.kr