# Mehdi Kargahi, Ph.D.

School of Electrical and Computer Engineering

University of Tehran

Tel (Direct): +98 (21)82084309

email: kargahi@ut.ac.ir

Website:

**EDUCATION**

**Ph.D In Computer Engineering-Software**Sharif University of Technology 2001-2007
**M.A.Sc In Computer Engineering-Software**Sharif University of Technology 1998-2001
**B.Sc In Computer Enginering**Amirkabir University of Technology 1994-1998

**PUBLICATIONS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **543** | **13** | **45** | **34** | **0** |
| Citations | h-Index | Article | Conference | Book |

***Articles***

**1.** Adaptive pooling-based convolution factorization for deploying CNNs on energy-constrained IoT edge devices. Yousefi Amin, Kargahi Mehdi (2023)., MICROPROCESSORS AND MICROSYSTEMS, 98(1), 104776.

**2.** Energy-Resilient Real-Time Scheduling. Shirazi Mahmoud, Thiele Lothar, Kargahi Mehdi (2023)., IEEE TRANSACTIONS ON COMPUTERS, 72(1), 69-81.

**3.** Control Performance Analysis of Automotive Cyber-Physical Systems: A Study on Efficient Formal Verification. Panahi Vahid, Kargahi Mehdi, Faghih Fathiyeh (2022)., ACM Transactions on Cyber-Physical Systems, 7(1), 1-18.

**4.** Resilient Monitoring in Self-Adaptive Systems through Behavioral Parameter Estimation. Alidoost Nia Mehran, Kargahi Mehdi, Abate Alessanddro (2021)., JOURNAL OF SYSTEMS ARCHITECTURE, 118(1), 102177.

**5.** Analytical Program Power Characterization for Battery Depletion-time Estimation. Mohammad Pour Fard Mahdi, Hasanloo Mahmoud, Kargahi Mehdi (2021)., ACM Transactions on Embedded Computing Systems, 20(2), 1-9.

**6.** Energy scheduling of fixed-priority parallel real-time tasks in multi- core cyber-physical systems. Mohammadi Jamal, Kargahi Mehdi, Shirazi Mahmoud (2020)., The CSI Journal on Computing Science and Information Technology, 18(1), 31-41.

**7.** Dynamic Harvesting- and Energy-Aware Real-Time Task Scheduling. Hasanloo Mahmoud, Kargahi Mehdi, Jalilian Shahrokh (2020)., Sustainable Computing: Informatics and Systems, 29(1), 100413.

**8.** Probabilistic approximation of runtime quantitative verification in self-adaptive systems. Alidoost Nia Mehran, Kargahi Mehdi, Faghih Fathiyeh (2020)., MICROPROCESSORS AND MICROSYSTEMS, 72(102943), 102943.

**9.** Performance maximization of energy-variable self-powered (m, k)-firm real-time systems. Shirazi Mahmoud, Kargahi Mehdi, Thiele Lothar (2020)., REAL-TIME SYSTEMS, 56(1), 64-111.

**10.** Aging-Aware Instruction-Level Statistical Dynamic Timing Analysis for Embedded Processors. Moghaddas Sarabi Iraj, Ersali Mostafa, Kargahi Mehdi (2019)., IEEE TRANSACTIONS ON VERY LARGE SCALE INTEGRATION (VLSI) SYSTEMS, 28(2), 433-442.

**11.** A reliability-aware resource provisioning scheme for real-time industrial applications in a Fog-integrated smart factory. Dehnavi Saeed, Faragardi Hamidreza, Kargahi Mehdi, Fahringer Thomas (2019)., MICROPROCESSORS AND MICROSYSTEMS, 70(1), 1-14.

**12.** Instruction-Level NBTI Stress Estimation and Its Application in Runtime Aging Prediction for Embedded Processors. Moghaddas Sarabi Iraj, Fouman Arash, Ersali Mostafa, Kargahi Mehdi (2019)., IEEE TRANSACTIONS ON COMPUTER-AIDED DESIGN OF INTEGRATED CIRCUITS AND SYSTEMS, 38(8), 1427-1437.

**13.** Detecting new generations of threats using attribute-based attack graphs. Alidoost Nia Mehran, Bahrak Behnam, Kargahi Mehdi, Fabian Benjamin (2019)., IET Information Security, 13(4), 293-303.

**14.** Feasibility Interval for Fixed-Priority Scheduling of Mixed-Criticality Periodic Tasks with Offsets. Asyaban Sedigheh, Kargahi Mehdi (2019)., IEEE Embedded Systems Letters, 11(1), 17-20.

**15.** Harvesting-aware charge management in embedded systems equipped with a hybrid electrical energy storage. Hasanloo Mahmoud, Kargahi Mehdi (2018)., COMPUTERS & ELECTRICAL ENGINEERING, 69(1), 98-114.

**16.** IoT-Enabled Humans in the Loop for Energy Management Systems: Promoting Building Occupants' Participation in Optimizing Energy Consumption. Bisadi Mona, Akrami Alireza, Teimourzadeh Saeed, Aminifar Farokh, Kargahi Mehdi, Shahidehpour Mohammad (2018)., IEEE Electrification Magazine, 6(2), 64-72.

**17.** An energy-aware resource provisioning scheme for real-time applications in a cloud data center. Faragardi Hamidreza, Dehnavi Saeed, Nolte Thomas, Kargahi Mehdi, Fahringer Thomas (2018)., Software Practice and Experience, 48(1), 1734-1757.

**18.** An exact schedulability test for fixed-priority preemptive mixed-criticality real-time systems. Asyaban Sedigheh, Kargahi Mehdi (2017)., REAL-TIME SYSTEMS, 54(2), 1-59.

**19.** Resource Availability Prediction in Distributed Systems: An Approach for Modeling Non-Stationary Transition Probabilities. Kianpisheh Somayeh, Kargahi Mehdi, Moghadam Charkari Nasrollah (2017)., IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS, 28(8), 2357-2372.

**20.** ReDePoly: reducing delays in multi-channel P2P live streaming systems using distributed intelligence. Ghaderzadeh Abdulbaghi, Kargahi Mehdi, Reshadi Midia (2017)., TELECOMMUNICATION SYSTEMS, 65(1), 1-16.

**21.** InFreD: Intelligent Free Rider Detection in collaborative distributed systems. Ghaderzadeh Abdulbaghi, Kargahi Mehdi, Reshadi Midia (2017)., JOURNAL OF NETWORK AND COMPUTER APPLICATIONS, 78(1), 134-145.

**22.** An Energy-Optimal Real-Time Scheduling Algorithm for Unrelated DVS-Enabled Parallel Machines. Gholipour Mahmoud, Kargahi Mehdi, Faili Heshaam, Yousefi Shahbaz, Ravanbakhsh Hadi (2016)., The CSI Journal on Computer Science and Engineeringn, 13(2), 1-22.

**23.** Analysis and Scheduling of a Battery-Less Mixed-Criticality System with Energy Uncertainty. Asyaban Sedigheh, Kargahi Mehdi, Thiele Lothar, Mohaqeqi Morteza (2016)., ACM Transactions on Embedded Computing Systems, 16(1), 1-26.

**24.** Ant colony based constrained workflow scheduling for heterogeneous computing systems. Kianpisheh Somayeh, Moghadam Charkari Nasrollah, Kargahi Mehdi (2016)., Cluster Computing-The Journal of Networks Software Tools and Applications, 19(3), 1053-1070.

**25.** Reliability-driven scheduling of time/cost-constrained grid workflows. Kianpisheh Somayeh, Moghadam Charkari Nasrollah, Kargahi Mehdi (2016)., Future Generation Computer Systems-The International Journal of eScience, 55(1), 1-16.

**26.** Thermal analysis of stochastic DVFS-enabled multicore real-time systems. Mohaqeqi Morteza, Kargahi Mehdi (2015)., JOURNAL OF SUPERCOMPUTING, 71(12), 4594-4622.

**27.** Temperature-Aware Speed Scheduling in Periodic Real-Time Systems. Mohaqeqi Morteza, Kargahi Mehdi, Gharehdaghi Fatemeh (2014)., The CSI Journal on Computer Science and Engineeringn, 12(2&4(b)), 36-46.

**28.** Temperature-aware adaptive power management: An analytical approach for joint processor and cooling mode selection. Mohaqeqi Morteza, Kargahi Mehdi (2014)., Sustainable Computing: Informatics and Systems, 4(4), 307-317.

**29.** Precautious-RM: a predictable non-preemptive scheduling algorithm for harmonic tasks. Nasri Mitra, Kargahi Mehdi (2014)., REAL-TIME SYSTEMS, 50(4), 548-584.

**30.** Lifetime Improvement of Real-Time Embedded Systems by Battery-Aware Scheduling. Manoochehri Soghra, Kargahi Mehdi (2014)., Iranian Journal of Electrical and Computer Engineering, 12(1), 25-36.

**31.** Analytical Leakage-Aware Thermal Modeling of a Real-Time System. Mohaqeqi Morteza, Kargahi Mehdi, Ali Movaghar (2014)., IEEE TRANSACTIONS ON COMPUTERS, 63(6), 1378-1392.

**32.** Adaptive Scheduling of Energy Harvesting Real-Time Systems. Kargahi Mehdi, Dehghan Menshadi Maryam (2013)., The CSI Journal on Computer Science and Engineeringn, 11(1), 1-10.

**33.** Adaptive Scheduling of Real-Time Systems co-Supplied by Renewable and Non-Renewable Sources. Mohaqeqi Morteza, Kargahi Mehdi, Dehghan Menshadi Maryam (2013)., ACM Transactions on Embedded Computing Systems, 13(1), 1-28.

**34.** Utility accrual object distribution in MPSoC real-time embedded systems. Mohaqeqi Morteza, Kargahi Mehdi (2013)., JOURNAL OF COMPUTER AND SYSTEM SCIENCES, 79(4), 406-420.

**35.** Analytical Architecture - based Performability Evaluation of Real - Time Software Systems. Eshragh Faezeh, Kargahi Mehdi (2013)., Journal of Systems and Software, 86(1), 233-246.

**36.** Scheduling of Accuracy - Constrained Real - Time Systems in Dynamic Environments. Mitra Nasri, Kargahi Mehdi, Morteza Mohaqeqi (2012)., IEEE Embedded Systems Letters, 4(3), 61-64.

**37.** Performance Optimization Based on Analytical Modeling in a Real - Time System with Constrained Time/Utility Functions. Kargahi Mehdi, Ali Movaghar (2011)., IEEE TRANSACTIONS ON COMPUTERS, 60(8), 1169-1181.

**38.** On the Handling of NOde Failures : Energy - Efficient Job Alocation Algorithm for Real - Time Sensor Networks. Hamid Karimi, Kargahi Mehdi, Yazdani Naser (2010)., Journal of Information Processing Systems, 6(3), 413-434.

**39.** Dynamic Routing of Real - Time Jobs among Parallel EDF Queues : A Performance Study. Kargahi Mehdi, Ali Movaghar (2010)., COMPUTERS & ELECTRICAL ENGINEERING, 36(5), 835-849.

**40.** Utility Accrual Dynamic Routing in Real - Time Parallel Systems. Kargahi Mehdi, Ali Movaghar (2010)., IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS, 21(12), 1822-1835.

**41.** Energy - Aware Scheduling of Execution - Instant Sensitive Real - Time Systems. Farzinvash Lili, Kargahi Mehdi (2009)., The CSI Journal on Computer Science and Engineeringn, 7(2-4 (b)), 34-47.

**42.** Stochastic DVS - based dynamic power management for Soft Real - Time Systems. Kargahi Mehdi, Ali Movaghar (2008)., MICROPROCESSORS AND MICROSYSTEMS, 32(3), 121-144.

**43.** Two - Class M/M/1 System with Preemptive Non Real - Time Jobs and Prioritized Real - Time Jobs under Earliest - Deadline - First policy. Kargahi Mehdi, Ali Movaghar Rahim Abadi (2008)., Scientia Iranica, 15(2), 252-265.

**44.** A Multiprocessor System with Non - Preemptive Earliest - Deadline - First Scheduling Policy: A Performability Study. Kargahi Mehdi, Ali Movaghar (2007)., JOURNAL OF INDUSTRIAL AND SYSTEMS ENGINEERING, 1(1), 55-37.

**45.** A Non - Preemptive Two - Class M/M/1 System with Prioritized Real - Time Jobs under Earliest - Deadline - First Policy. Kargahi Mehdi, Ali Movaghar (2007)., International journal industrial and systems engineering, 1(---), 260-280.

***Books***

***Conferences***

**1.** Automatic Energy-Hotspot Detection and Elimination in Real-Time Deeply Embedded Systems. Shekarisaz Mohsen, Thiele Lothar, Kargahi Mehdi (2021)., 2021 IEEE Real-Time Systems Symposium (RTSS), 7-10 December, Dortmund, Germany.

**2.** Self-Adaptation with Imperfect Monitoring in Solar Energy Harvesting Systems. Alidoost Nia Mehran, Kargahi Mehdi, Abate Alessanddro (2020)., 2020 CSI/CPSSI International Symposium on Real-Time and Embedded Systems and Technologies (RTEST), 10-11 June.

**3.** Improving Energy-Efficiency of CNNs via Prediction of Reducible Convolutions for Energy-Constrained IoT Devices. Yoosefi Amin, Kargahi Mehdi (2020)., 2020 CSI/CPSSI International Symposium on Real-Time and Embedded Systems and Technologies (RTEST), 10-11 June.

**4.** Program Energy-Hotspot Detection and Removal: A Static Analysis Approach. Shekarisaz Mohsen, Talebian Fatemeh, Jabariani Marjan, Mehri Farzad, Faghih Fathiyeh, Kargahi Mehdi (2020)., 2020 CSI/CPSSI International Symposium on Real-Time and Embedded Systems and Technologies (RTEST), 10-11 June.

**5.** Resilience In Cyber-Physical Systems. Kargahi Mehdi (2020)., Iran National Informatics Conference, 15-16 January, Tehran, Iran.

**6.** Energy Metamorphic Testing for Android Applications. Azimian Farzaneh, Faghih Fathiyeh, Kargahi Mehdi, Mirdehghan Mahdi (2019)., 2019 IEEE 30th International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC Workshops), 8 September.

**7.** Towards an Actor-based Approach to Design Verified ROS-based Robotic Programs using Rebeca. Dehnavi Saeed, Sedaghatbaf Ali, Salmani Bahar, Sirjani Marjan, Kargahi Mehdi, Khamespanah Ehsan (2019)., The 16th International Conference on Mobile Systems and Pervasive Computing, 19-21 August.

**8.** Energy Debugging of Android Applications based on User Behavior. Taheri Boshra, Faghih Fathiyeh, Kargahi Mehdi (2018)., The Proceeding of First Work-in-Progress Session of 2018 CSI International Symposium on Real-Time and Embedded Systems and Technologies (WiP-RTEST 2018), 9-12 July, Iran.

**9.** Accelerating Multicore Scheduling in ChronOS Using Concurrent Data Structures. Behnoudfar Ali, Kargahi Mehdi (2018)., The Proceeding of First Work-in-Progress Session of 2018 CSI International Symposium on Real-Time and Embedded Systems and Technologies (WiP-RTEST 2018), 9-12 July, Tehran, Iran.

**10.** Online Data-Driven Synchronization for IoT Systems with Unidirectional Network. Hosseini Zahani Seyyed Hossein, Kargahi Mehdi (2018)., CSI International Symposium on Real-Time and Embedded Systems and Technologies, 9-10 May.

**11.** A time-predictable fog-integrated cloud framework: One step forward in the deployment of a smart factory. Faragardi Hamidreza, Dehnavi Saeed, Kargahi Mehdi, Papadopoulos Alessandro Vittorio, Nolte Thomas (2018)., International Symposium on Real-Time and Embedded Systems and Technologies, 9-10 May.

**12.** Performance adaptation of real-time control tasks by dynamic scheduling: A self-triggered control approach. Panahi Vahid, Kargahi Mehdi (2018)., International Symposium on Real-Time and Embedded Systems and Technologies, 9-10 May.

**13.** Resilient Scheduling of Energy-Variable Weakly-Hard Real-Time Systems. Shirazi Mahmoud, Kargahi Mehdi, Thiele Lothar (2017)., Real-Time Networks and Systems, 4-6 October, France.

**14.** Time Sensitivity in Cyber-Physical Systems. Kargahi Mehdi (2017)., Future Trends in Electrical and Computer Engineering, 22 May.

**15.** Promotion e-Health Services for Rural and Less Developed Regions through Cyber Physical Systems (CPS). Taghiyareh Fattaneh, Khonsari Ahmad, Shakery Azadeh, Kargahi Mehdi, Ghassemi Esfahani Fatemeh, Mohammadi Siamak (2016)., The First National Conference on Universal Service Obligation (USO) for ICT in Rural and Less Developed Regions, 5 December, Tehran, Iran.

**16.** Stochastic Thermal Control of a Multicore Real-Time System. Mohaqeqi Morteza, Kargahi Mehdi, Fouladighaleh Kazim (2016)., Euromicro International Conference on Parallel, Distributed, and Network-Based Processing, 17-19 February, Heraklion, Greece.

**17.** Joint Management of Processing and Cooling Power Based on Inaccurate Thermal Information in a Stochastic Real-Time System. Ghasemi Mehdi, Mohaqeqi Morteza, Kargahi Mehdi (2015)., The 23rd Conference on Real-Time Networks and Systems (RTNS 2015), 4-6 November, France.

**18.** The PFP\_ASAP Algorithm for Energy Harvesting Real-Time Systems with a Non-Ideal Supercapacitor. Faramarzi Khadijeh, Hasanloo Mahmood, Kargahi Mehdi (2015)., International Conference on Computer and Knowledge Engineering, 29-30 October, Mashhad, Iran.

**19.** Reliability-Constrained Response-Time Minimization in Soft Real-Time Systems. Mozafari Fard Ahad, Ghasemi Mehdi, Kargahi Mehdi (2015)., International Conference on Real-Time and Embedded Systems and Technologies, 7-8 October, Tehran, Iran.

**20.** A Predictable Interrupt Management Policy for Real-Time Operating Systems. Ebrahimian Amiri Javad, Kargahi Mehdi (2015)., International Conference on Real-Time and Embedded Systems and Technologies, 7-8 October, Tehran, Iran.

**21.** Energy-Efficient Scheduling for Stability-Guaranteed Embedded Control Systems. Salami Abyaneh Alireza, Kargahi Mehdi (2015)., in the International Conference on Real-Time and Embedded Systems and Technologies, 7-8 October, Tehran, Iran.

**22.** Gauss-jordan matrix invesion speed-up using. Shirazi Mahmoud, Kargahi Mehdi, Khunjush Farshad (2015)., International Conference on Advanced Communications and Computation (INFOCOMP), 21-26 June, Brussels, Belgium.

**23.** Preemption-Delay Aware Self-Triggered Controller: A Scheduler-Controller Codesign Approach. Panahi Vahid, Mohaqeqi Morteza, Kargahi Mehdi (2015)., 23rd Iranian Conference on Electrical Engineeing, 10-14 May, Tehran, Iran.

**24.** An Algorithm for Cloud Provider Benefit Maximization regarding SLA Availability Constraints. Tavakoli Mehdi, Kargahi Mehdi (2015)., CSI Computer Conference, 3-5 March, Mashhad, Iran.

**25.** RTLB-DSR: A load-balancing DSR based QoS routing protocol in MANETs. Maleki Hanif, Kargahi Mehdi, Jabbehdari Sam (2014)., International Conference on Computer and Knowledge Engineering (ICCKE(, 29-30 October, Mashhad, Iran.

**26.** On the Optimality of RM and EDF for Non-Preemptive Real-Time Harmonic Tasks. Nasri Mitra, Baruah Sanjoy, Fohler Gerhard, Kargahi Mehdi (2014)., International Conference on Real-Time and Network Systems, 8-10 October, paris, France.

**27.** Anomaly detection in embedded systems using simultaneous power and temperature monitoring. Abbasi Zeynab, Kargahi Mehdi, Mohaqeqi Morteza (2014)., ISC Conference on Information Security and Cryptography, 3-4 September, Tehran, Iran.

**28.** A Framework to Construct Customized Harmonic Periods for Real-Time Systems. Nasri Mitra, Fohler Gerhard, Kargahi Mehdi (2014)., Euromicro Conference on Real-Time Systems (ECRTS), 8-11 July, Madrid, Spain.

**29.** Workload Prediction for Cloud Computing Availability Improvement. Tavakoli Mehdi, Kargahi Mehdi (2014)., International Conference on Information and Knowledge Technology, 28-30 May, Iran.

**30.** Thermal Analysis of Periodic Real-Time Systems with Stochastic Properties: An Analytical Approach. Mohaqeqi Morteza, Kargahi Mehdi (2013)., 21st International Conference on Real-Time and Network Systems (RTNS), 16-18 October, nice, France.

**31.** Analytical Leakage/Temperature-Aware Power Modeling and Optimization for a Variable Speed Real-Time System. Kargahi Mehdi, محققی مرتضی, موقر علی (2012)., the 20th International Conference on Real-Time and Network Systems, 8-9 November, Pont-à-Mousson, France.

**32.** A Method for Improving Delay-Sensitive Accuracy in Real-Time Embedded Systems. نصری میترا, Kargahi Mehdi (2012)., the 18th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications, 20-22 August, seoul, Korea.

**33.** A Real-Time Data Aggregation Method for Fault-Tolerant Wireless Sensor Networks. Kargahi Mehdi, تیموری پیمان, Yazdani Naser (2012)., International Symposium on Applied Computing, 26-30 March, Trento, Italy.

**34.** . نواب کاشانی سیدعلی, Kargahi Mehdi (2012)., 6-8 March, Tehran, Iran.

**HONORS and AWARDS**

**ACADEMIC POSITIONS**

**COURSES OFFERED**

**Operating System

Operating Systems Laboratory

Real Time Embedded Systems

Advanced Immediate and Latent (Cyber-physics) Systems

Operating System

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Operating System

Operating Systems 1

Real Time Embedded Systems

Advanced Immediate and Latent (Cyber-physics) Systems

Operating Systems 1

Industrial Training

Operating Systems 1

Real Time Embedded Systems

Advanced Immediate and Latent (Cyber-physics) Systems

Operating Systems 1

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Real Time Embedded Systems

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**LABORATORIES**