Contact Information:

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Bardia Safaei
Academic Curriculum Vitae
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Brief Overview

Dr. Bardia Safaei received the Ph.D. degree in computer engineering from Sharif University of Technology, Tehran, Iran, in 2021. As a Ph.D. visiting researcher, he was with the Chair for Embedded Systems (CES), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany, from 2019 to 2020. He is currently a faculty member of the department of computer engineering at Sharif University of Technology, where he is the director of the Reliable and Durable IoT Applications & Networks Laboratory (RADIAN). Dr. Safaei received the ACM/SIGAPP student award at the 34th ACM/SIGAPP Symposium on Applied Computing (SAC'19). He is honored to be selected as a member of the national elites foundation from 2016 to 2020. He has served as the executive chair of the 28th CSI international computer conference. He is a member of the board of directors in the Cyber-Physical Systems Society of Iran (CPSSI). He is serving as an editor in Scientia Iranica Transactions on Computer Science & Engineering and Electrical Engineering. He has been a TPC member in ACM/IEEE DAC'19, and IEEE WF-IoT. Dr. Safaei has served as a reviewer in several prestigious international journals and conferences, such as IEEE Transactions on Mobile Computing, IEEE Transactions on Vehicular Technology, IEEE Communications Magazine, ACM Transactions on Storage, ACM/IEEE DAC, IEEE Sensors Conference, and IEEE WF-IoT. His research interests include energy-efficiency and dependability challenges in Internet of Things, Wireless Sensor Networks, Mobile Ad-hoc Networks, Cloud/Edge/Fog computing, and Vehicular Ad-hoc Networks.

| Education

2016-2021	Sharif University of Technology, Tehran, Iran. Ph.D., Computer Engineering Title: Energy-Aware Routing in Internet of Things
2019-2020	Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany. Ph.D. sabbatical Title: Resource Management in Embedded Systems and IoT
2014-2016	Sharif University of Technology, Tehran, Iran. M.Sc., Computer Engineering, Title: Fault Tolerance in Cloud Storage Systems Using Erasure Codes
2010-2014	Khaje-Nasir University of Technology, Tehran, Iran. B.Sc., Computer Engineering,

| Professional Background

2023-Present	Editor of Scientia Iranica Transactions on Computer Science & Engineering and Electrical Engineering
2022-Present	IT manger, Department of Computer Science and Engineering, Sharif University of Technology

2022	Executive chair of the 28th CSI International Computer Conference
2021-Present	Assistant Professor, Department of Computer Science and Engineering, Sharif University of Technology
2021-Present	Director of the Reliable And Durable IoT Applications & Networks (RADIAN)
2021	TPC member in IEEE 7th World Forum on Internet of Things (WF-IoT)
2020-Present	Member of the board, Cyber-Physical Systems Society of Iran (CPSSI)
2019	TPC member in the 56th International Design Automation Conference (DAC'19)

Interests

Energy-Efficiency and Dependability Challenges in:

- ✓ Internet of Things (IoT)
- ✓ Wireless Sensor Networks (WSN)
- ✓ Mobile Ad-hoc Networks (MANET)
- ✓ Edge Computing
- ✓ Fog Computing
- ✓ Cloud Computing
- ✓ Vehicular Ad-hoc Networks (VANET)

Honors and Awards

2023	Received the Dr. Kazemi Ashtiani award from national elites foundation.
2021	Received the Dr. Shahriari award from national elites foundation.
2020	Received full scholarship from Karlsruhe Institute of Technology (KIT) for conducting research as a visiting PhD researcher at the Chair for Embedded Systems (CES).
2019	Received the ACM/SIGAPP student award for presenting our paper in the 34th ACM/SIGAPP Symposium on Applied Computing (SAC).
2019	Elected as a member of national elites foundation.
2018	Elected as the premier Ph.D. researcher in the department of computer engineering at Sharif University of Technology.
2018	Elected as a member of national elites foundation.
2017	Elected as a member of national elites foundation.
2016	Nominated for receiving the best paper award at ICSEC 2016.
2016	Elected as a member of national elites foundation.
2014	Credited as a bright talent for pursuing the M.Sc. degree at Sharif University of Technology without the entrance exam.
2014	Ranked 3rd among all of the Hardware engineering B.Sc. students at K.N. Toosi University of Technology.

Publications (Journals)

2024	S Rezagholi Lalani, B Safaei, AM Hosseini Monazzah, H Taghizadeh, J. Henkel, A. Ejlali, "QUERA: Q-Learning RPL Routing Mechanism to Establish Energy Efficient and Reliable Communications in Mobile IoT Networks," *IEEE Transactions on Green Communications and Networking*, 2024.
2023	A. Motamedhashemi, **B. Safaei**, A. M. H. Monazzah, A. Ejlali, "DATA: Throughput and Deadline-Aware Genetic Approach for Task Scheduling in Fog Networks," *IEEE Embedded Systems Letters*, 2023.

2023	R. Siyadatzadeh, F. Mehrafrooz, M. Ansari, **B. Safaei**, M. Shafique, J. Henkel, A. Ejlali, "ReLIEF: A Reinforcement Learning-Based Real-Time Task Assignment Strategy in Emerging Fault-Tolerant Fog Computing," *IEEE Internet of Things Journal*, 2023.
2022	**B. Safaei**, H. Taghizade, A. M. H. Monazzah, K. Talaei, P. Sadeghi, A. Mohammadsalehi, J. Henkel, A. Ejlali "Introduction and Evaluation of Attachability for Mobile IoT Routing Protocols with Markov Chain Analysis," *IEEE Transactions on Network and Service Management*, 2022.
2022	B. Ranjbar, H. Alikhani, **B. Safaei**, A Ejlali, A Kumar, "Learning-Oriented QoS-and Drop-Aware Task Scheduling for Mixed-Criticality Systems," *Computers*, 2022.
2021	A. Mohammadsalehi, **B. Safaei**, A. M. Hosseini Monazzah, L. Bauer, J. Henkel, A. Ejlali, "ARMOR: A Reliable and Mobility-aware RPL for Mobile Internet of Things Infrastructures," *IEEE Internet of Things Journal*, 2021.
2021	R. Narimani, **B. Safaei**, A. Ejlali, "A Low-Waste Reliable Adiabatic Platform," *Computers & Electrical Engineering*, 2020.
2020	**B. Safaei**, A. M. Hosseini Monazzah, A. Ejlali, "ELITE: An Elaborated Cross-Layer RPL Objective Function to Achieve Energy Efficiency in Internet of Things Devices," *IEEE Internet of Things Journal*, 2020.
2020	**B. Safaei**, A. Mohammadsalehi, K. Talaei, S. Zarbaf, A. M. Hosseini Monazzah, F. Samie, L. Bauer, J. Henkel, A. Ejlali, "Impacts of Mobility Models on RPL-based Mobile IoT Infrastructures: An Evaluative Comparison and Survey," *IEEE Access*, 2020
2020	M. Jafari-Nodoushan, **B. Safaei**, A. Ejlali, "Leakage-Aware Battery Lifetime Analysis Using the Calculus of Variations," *IEEE Transactions on Circuits and Systems–I: Regular Papers (TCAS I)*, 2020.
2020	B. Ranjbar, **B. Safaei**, A. Ejlali, and A. Kumar, "FANTOM: Fault-Tolerant Task-Drop Aware Scheduling for Mixed-Criticality Systems," *IEEE Access*, 2020.
2020	R. Narimani, **B. Safaei**, A. Ejlali, "A Comprehensive Analysis on The Resilience of Adiabatic Logic Families Against Transient Faults," *Integration, The VLSI Journal*, 2020.
2019	A. Hoseinghorban, A. M. Hosseini Monazzah, M. Bazzaz, **B. Safaei**, A Ejlali, " COACH: Consistency Aware Check-pointing for Nonvolatile Processor in Energy Harvesting Systems," *IEEE Transactions on Emerging Topics in Computing (TETC),* 2019.
2019	**B. Safaei**, A. A. Mohammad Salehi, A. M. Hosseini Monazzah, A. Ejlali, "Effects of RPL Objective Functions on the Primitive Characteristics of Mobile and Static IoT Infrastructures," *Microprocessors and Microsystems (MICPRO),* 2019.
2017	S. A. Chamazcoti, **B. Safaei**, S. G. Miremadi, "Can Erasure Codes Damage Reliability in SSD-based Storage Systems?," *IEEE Transactions on Emerging Topics in Computing (TETC),* 2017.

| Publications (Conferences)

2022	S.R. Lalani, **B. Safaei**, A. M. H. Monazzah, A. Ejlali, "PEARL: Power and Delay-Aware Learning-based Routing Policy for IoT Applications," *in proceedings of the CSI/CPSSI International Symposium on Real-Time and Embedded Systems and Technologies*, 2022.
2021	M. Shirbeigi, **B. Safaei,** A. Mohammadsalehi, A. M. Hosseini Monazzah, J. Henkel, and A. Ejlali, "A Cluster-based and Drop-aware Extension of RPL to Provide Reliability in IoT Applications," *in proceedings of the 15th IEEE Systems Conference (SysCon'21),* Vancouver, Canada, April 15, 2021.
2020	S. R. Lalani, A. Mohammadsalehi, H. Taghizade, **B. Safaei**, A. M. Hosseini Monazzah, and A. Ejlali, "REFER: A Reliable and Energy-Efficient RPL for Mobile IoT Applications," *in proceedings of the CSI/CPSSI International Symposium on Real-Time and Embedded Systems and Technologies*, 2020.
2019	P. Sadeghi, **B. Safaei**, K. Talaei, A. M. Hosseini Monazzah, and A. Ejlali, "Towards a Reliable Modulation and Encoding Scheme for Internet of Things Communications," *in proceedings of*

the 13th IEEE International Conference on Application of Information and Communication Technologies (AICT'19), Baku, Azerbaijan, October 23-25, 2019.

2019 **B. Safaei**, A. A. Mohammad Salehi, M. Shirbeigi, A. M. Hosseini Monazzah, and A. Ejlali, "PEDAL: Power-Delay Product Objective Function for Internet of Things Applications," *in proceedings of the 34th ACM/SIGAPP Symposium on Applied Computing (SAC'19),* Limassol, Cyprus, April 8-12, 2019.

2019 M. Kamali, A. Arvandi, M. Ashtarayeh, **B. Safaei**, and A. M. Hosseini Monazzah, "A Novel LNA Circuit in the L Band with the Purpose of Increasing Gain in GSM & GPS in Wireless Multi-receiver Systems," *in Proceedings of the 2nd IEEE International Conference on Communication Engineering and Technology (ICCET'19)*, Nagoya, Japan, April 12-15, 2019.

2018 **B. Safaei**, A. M. Hosseini Monazzah, T. Shahroodi, and A. Ejlali, "Objective Function: A Key Contributor in Internet of Things Primitive Properties," *in Proceedings of the 2nd CSI International Symposium on Real-Time and Embedded Systems and Technologies (RTEST'18),* Tehran, Iran, May 9-10, 2018.

2017 **B. Safaei**, A. M. Hosseini Monazzah, M. Barzegar Bafroei, and A. Ejlali, "Reliability side effects in internet of things application layer protocols," *in Proceedings of the 2nd IEEE International Conference on System Reliability and Safety (ICSRS'17),* Milan, Italy, December 20-22, 2017.

2016 **B. Safaei**, S. G. Miremadi, and S. A. Chamazcoti, "Implicit effect of decoding time on fault tolerance in erasure coded cloud storage systems," *in proceedings of 20th IEEE International Computer Science and Engineering Conference (ICSEC'16)*, Chiang Mai, Thailand, December 14-17, 2016.

2016 S. A. Chamazcoti, **B. Safaei**, and S. G. Miremadi, "SOYA: SSD-based RAID Systems Reliability Simulator," *in proceedings of the International Conference on System reliability and Science (ICSRS'16)*, Paris, France, 2016.

Teaching Experience

Lectures:

- ✓ Internet of Things (IoT), Sharif University of Technology (2023-Present)
- ✓ Embedded Systems & Internet of Things, Sharif University of Technology (2019-2020)
- ✓ Wireless Networks, Sharif University of Technology (2021-Present)
- ✓ Computer Simulation, Sharif University of Technology (2021-Present)
- ✓ Computer Networks Lab, Sharif University of Technology (2021-Present)

International Review Services

- ✓ IEEE Transactions on Emerging Topics in Computers (TETC)
- ✓ IEEE Transactions on Sustainable Computing (TSUSC)
- ✓ IEEE Transactions on Vehicular Technologies (TVT)
- ✓ IEEE Transactions on Mobile Computing (TMC)
- ✓ IEEE Communications Magazine
- ✓ Elsevier Microprocessor and Microsystems
- ✓ Elsevier Microelectronics Journal
- ✓ Springer Telecommunication Systems
- ✓ Design Automation Conference (DAC)
- ✓ IEEE World Forum on Internet of Things (WF-IoT)

- ✓ IEEE International Conference on Computer Design (ICCD)
- ✓ International Symposium on Real-Time Distributed Computing (ISORC)
- ✓ IEEE Sensors Conference