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Mohsen Ansari is currently an assistant professor of computer engineering at Sharif University of Technology, Tehran, Iran. He received his Ph.D. degree in computer engineering from Sharif University of Technology, Tehran, Iran, in 2021. He was a visiting researcher in the Chair for Embedded Systems (CES), Karlsruhe Institute of Technology (KIT), Germany, from 2019 to 2021. Dr. Ansari is serving as an associate editor of the IEEE Internet of Things Journal and the IEEE Embedded Systems Letter (ESL). His research interests include embedded machine learning, internet of things AI, edge AI, edge-fog-cloud Computing, low-power design, real-time systems, cyber-physical systems, and hybrid systems design.

Page at: Google Scholar, ResearchGate, Linkedin

Experience and University Positions

- **Assistant Professor**, Department of Computer Science and Engineering, Sharif University of Technology, Tehran, Iran, Apr. 2022- Present.
- **Member of the board**, Cyber-Physical Systems Society of Iran, Dec. 2021- Present.
- **Postdoctoral Fellow**, Department of Computer Science and Engineering, Sharif University of Technology, Tehran, Iran, Oct. 2021-Apr. 2022.
- **Visiting Researcher**, The Chair for Embedded Systems, Karlsruhe Institute of Technology, Karlsruhe, Germany, Oct. 2019- Apr. 2021.
- **Group Leader**, Embedded Systems Research Laboratory (ESR-LAB), Department of Computer Science and Engineering, Sharif University of Technology, Tehran, Iran, Sep. 2016- Apr. 2022.

Education

- **Ph.D. in Computer Engineering**, Department of Computer Science and Engineering, Sharif University of Technology, Tehran, Iran, Sep. 2016- Oct. 2021 (GPA= 19.84/20).
- **M.Sc. in Computer Engineering (Computer System Architecture)**, Department of Computer Science and Engineering, Sharif University of Technology, Tehran, Iran, Sep. 2014- Aug. 2016 (GPA= 19.75/20).
- **B.Sc. in Computer Engineering (Computer System Architecture)**, Department of Engineering, Shahed University, Tehran, Iran, Sep. 2010- Aug. 2014 (GPA= 18.35/20).

Research Interests

- **Cyber-Physical Systems Design**
- **Embedded Machine Learning**
- **Edge, Fog, and Cloud Computing**
- **Edge AI and IoT AI**
- **Machine Learning for CPSs and Sensor Information Processing**
- **Thermal and Low Power Design of CPSs**
- **Energy-Efficient, Fault-Tolerant, and Secure Computing**

Publications

Journal Papers:

1. Abolfazl Younesi, Mehrab Toghani, Sepideh Safari, **Mohsen Ansari**, Thomas Fahringer, "MOSAIC: Mobility-Oriented Scheduling and Intelligent Resource Allocation for IoT," *IEEE Transactions on Mobile Computing*, in press, Dec. 2025.

2. Abolfazl Younesi, Elyas Oustad, **Mohsen Ansari**, Thomas Fahringer, Rajkumar Buyya, "HealthCare 5.0: An industry 5.0 perspective for next-generation medical systems with synergistic integration of IoT, AI, and 6G," Internet of Things, Volume 35, 2026.

3. Moein Esnaashari, **Mohsen Ansari**, Alireza Ejlali, "DReaM: Deep Reinforcement Learning for Joint Reliability and Power Management in Multicore IoT Devices," *IEEE Internet of Things Journal*, in press, Oct. 2025.

4. Majid Hajilou and **Mohsen Ansari**, "REEG: Reinforcement Learning-Based Gang Scheduling in Multicore Embedded Systems," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, in press, Oct. 2025.

5. Amir Mahdi Rasouli, Moein Esnaashari, and Mohsen Ansari, "RASOUL: A Reliability-Aware Task Allocation Strategy to Improve Success Rate and Energy Saving in Mobile-Edge Computing," *IEEE Internet of Things Journal*, vol. 12, pp. 42407 - 42417, Jul. 2025.

6. Shayan Shokri, Sepideh Safari, Shaahin Hessabi, and **Mohsen Ansari**, "PPAS-MiCs: Peak-power-aware scheduling of fault-tolerant mixed-criticality systems," *Sustainable Computing: Informatics and Systems*, vol. 47, Sep. 2025.

7. Hossein Hosseini, **Mohsen Ansari**, and Jörg Henkel, "Dynamic Task Replication with Imperfect Fault Detection in Multicore Cyber-Physical Systems," *IEEE Transactions on Emerging Topics in Computing*, vol. 13, no. 3, pp. 1113-1129, July-Sept. 2025.

8. Sepideh Safari, **Mohsen Ansari**, Shaahin Hessabi, Jörg Henkel, "ReTMiC: Reliability-Aware Thermal Management in Multicore Mixed-Criticality Embedded Systems," *IEEE Access*, vol. 13, pp. 33157 - 33175, Feb. 2025.

9. Elyas Oustad, Abolfazl Younesi, **Mohsen Ansari**, Sepideh Safari, Arman Soleimani, Alireza Ejlali, and Jörg Henkel, "DIST: Distributed Learning-based Energy-Efficient and Reliable Task Scheduling and Resource Allocation in Fog

Computing," *IEEE Transactions on Services Computing*, vol. 18, no. 3, pp. 1336-1351, May-June 2025.

10. Soheil Mahdizadeh, Elyas Oustad, and **Mohsen Ansari**, "Fictitious Play Game Theory for Server Deployment Optimization in Edge-Fog Environments," *IEEE Embedded Systems Letters*, vol. 17, no. 4, pp. 260-263, Aug. 2025.

11. Abolfazl Younesi, Elyas Oustad, Mohammad Abolnejadian, **Mohsen Ansari**, and Alireza Ejlali, "MoTiCPS: Energy Optimization on Multi-Objective Task Scheduling in IoT-Integrated Cyber-Physical Systems," *IEEE Transactions on Sustainable Computing*, vol. 10, no. 4, pp. 744-755, July-Aug. 2025.

12. Amir Hossein Ansari, Mohsen Ansari, and Alireza Ejlali, "TAFT: Thermal-Aware Hybrid Fault-Tolerant Technique for Multicore Embedded Systems," *IEEE Embedded Systems Letters*, vol. 16, no. 4, pp. 477-480, Dec. 2024.

13. Abolfazl Younesi, Mohsen Ansari, MohammadAmin Fazli, Alireza Ejlali, Muhammad Shafique, Jörg Henkel, "A Comprehensive Survey of Convolutions in Deep Learning: Applications, Challenges, and Future Trends," *IEEE Access*, vol. 12, pp. 41180-41218, 2024.

14. **Mohsen Ansari**, Sepideh Safari, Nezam Rohbani, Alireza Ejlali, Bashir M Al-Hashimi, "Power-Efficient and Aging-Aware Primary/Backup Technique for Heterogeneous Embedded Systems," *IEEE Transactions on Sustainable Computing*, in press.

15. Roozbeh Siyadatzadeh, Fatemeh Mehrafrooz, **Mohsen Ansari**, Bardia Safaei, Muhammad Shafique, Jörg Henkel, and Alireza Ejlali, "ReLIEF: A Reinforcement Learning-Based Real-Time Task Assignment Strategy in Emerging Fault-Tolerant Fog Computing," *IEEE Internet of Things Journal*, vol. 10, no. 12, pp. 10752-10763, 15 June, 2023.

16. Sina Yari-Karin, Roozbeh Siadatzadeh, **Mohsen Ansari**, and Alireza Ejlali, "Passive Primary/Backup-based Scheduling for Simultaneous Power and Reliability Management on Heterogeneous Embedded Systems," *IEEE Transactions on Sustainable Computing*, vol. 8, no. 1, pp. 82-93, 1 Jan.-March 2023.

17. **Mohsen Ansari**, Sepideh Safari, Heba Khdr, Pourya Gohari-Nazari, Jörg Henkel, Alireza Ejlali, and Shaahin Hessabi, "Power-Aware Checkpointing for Multicore Embedded Systems," *IEEE Transactions on Parallel and Distributed Systems*, vol. 33, no. 12, pp. 4410-4424, 1 Dec. 2022.

18. **Mohsen Ansari**, Sepideh Safari, Sina Yari-Karin, Pourya Gohari-Nazari, Heba Khdr, Muhammad Shafique, Jörg Henkel, and Alireza Ejlali, "Thermal-Aware Standby-Sparing Technique on Hetereogeneous Real-Time Embedded Systems," *IEEE Transactions on Emerging Topics in Computing*, vol. 10, no. 4, pp. 1883-1897, 1 Oct.-Dec. 2022.

19. Sepideh Safari, **Mohsen Ansari**, Heba Khdr, Pourya Gohari-Nazari,Sina Yari-Karin, Amir Yeganeh-Khaksar, Shaahin Hessabi, Alireza Ejlali, and Jörg Henkel, "A Survey of Fault-Tolerance Techniques for Embedded Systems from the Perspective of Power, Energy, and Thermal Issues," *IEEE Access*, vol. 10, pp. 12229-12251, 2022.

20. Sepideh Safari, Heba Khdr, Pourya Gohari-Nazari,**Mohsen Ansari**, Shaahin Hessabi, and Jörg Henkel, "TherMa-MiCs: Thermal-Aware Scheduling for

Fault-Tolerant Mixed-Criticality Systems," *IEEE Transactions on Parallel and Distributed Systems,* vol. 33, no. 7, pp. 1678-1694, July 2022.

21. **Mohsen Ansari**, Sina Yari-Karin, Sepideh Safari, and Alireza Ejlal, "Power Management to Meet Thermal Safe Power in Fault-Tolerant Embedded Systems" *TechRxiv,* 2021, doi:10.36227/techrxiv.14703192.v1.

22. Amir Yeganeh-Khaksar, **Mohsen Ansari**, Sepideh Safari, Sina Yari-Karin, and Alireza Ejlali, "Ring-DVFS: Reliability-Aware Reinforcement Learning-Based DVFS for Real-Time Embedded Systems," *IEEE Embedded Systems Letters,* vol. 13, no. 3, pp. 146-149, September 2021.

23. Amir Yeganeh-Khaksar, **Mohsen Ansari**, and Alireza Ejlali, "ReMap: Reliability Management of Peak-Power-Aware Real-Time Embedded Systems through Task Replication," *IEEE Transactions on Emerging Topics in Computing,* in press.

24. **Mohsen Ansari**, Mohammad Salehi, Sepideh Safari, Alireza Ejlali, and Muhammad Shafique, "Peak-Power-Aware Primary-Backup Technique for Efficient Fault-Tolerance in Multicore Embedded Systems," *IEEE Access,* vol. 8, pp. 142843-142857, 2020.

25. Javad Saber-Latibari, **Mohsen Ansari**, Pourya Gohari-Nazari, Sina Yari-Karin, Amir Mahdi Hosseini Monazzah, and Alireza Ejlali, "READY: Reliability- and Deadline-Aware Power-Budgeting for Heterogeneous Multi-Core Systems," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems,* vol. 40, no. 4, pp. 646-654, April 2021.

26. **Mohsen Ansari**, Amir Yeganeh-Khaksar, Sepideh Safari, and Alireza Ejlali, "Peak-Power-Aware Energy Management for Periodic Real-Time Applications," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems,* vol. 39, no. 4, pp. 779-788, April 2020.

27. **Mohsen Ansari**, Javad Saber-Latibari, Mostafa Pasandideh, and Alireza Ejlali, "Simultaneous Management of Peak-Power and Reliability in Heterogeneous Multicore Embedded Systems," *IEEE Transactions on Parallel and Distributed Systems,* vol. 31, no. 3, pp. 623-633, 1 March 2020.

28. **Mohsen Ansari**, Mostafa Pasandideh, Javad Saber-Latibari, and Alireza Ejlali, "Meeting Thermal Safe Power in Fault-Tolerant Heterogeneous Embedded Systems," *IEEE Embedded Systems Letters,* vol. 12, no. 1, pp. 29-32, March 2020.

29. **Mohsen Ansari**, Mostafa Pasandideh, and Alireza Ejlali, "Peak Power Management in Standby-Sparing Systems," *The CSI Journal on Computing Science and Information Technology,* In Press (in Persian).

30. Sepideh Safari, **Mohsen Ansari**, Ghazal Ershadi, and Shaahin Hessabi, "On the Scheduling of Energy-Aware Fault-Tolerant Mixed-Criticality Multicore Systems with Service Guarantee Exploration," *IEEE Transactions on Parallel and Distributed Systems,* vol. 30, no. 10, pp. 2338-2354, 1 Oct. 2019.

31. **Mohsen Ansari**, Sepideh Safari, Amir Yeganeh-Khaksar, Mohammad Salehi, and Alireza Ejlali, "Peak Power Management to Meet Thermal Design Power in Fault-Tolerant Embedded Systems," *IEEE Transactions on Parallel and Distributed Systems,* vol. 30, no. 1, pp. 161-173, 1 Jan. 2019.

32. Sepideh Safari, **Mohsen Ansari**, Mohammad Salehi, and Alireza Ejlali, "Energy-Budget-Aware Reliability Management in Multi-Core Embedded

Systems with Hybrid Energy Source," *The CSI Journal on Computer Science and Engineering (JCSE),* vol. 15, no. 2, pp. 31-43, 2018.

33. **Mohsen Ansari**, Sepideh Safari, Farimah R.Poursafaei, Mohammad Salehi, and Alireza Ejlali, "AdDQ: Low-Energy Hardware Replication for Real-Time Systems through Adaptive Dual Queue Scheduling," *The CSI Journal on Computer Science and Engineering (JCSE),* vol. 15, no. 1, pp. 31-38, 2017.

Conference Papers:

1. Amirhossein Ansari, **Mohsen Ansari**, Sepideh Safari, Alireza Ejlali, and Jörg Henkel, "GLEAM: A Graph-Learning Enhanced Adaptive Metaheuristic for Power-Aware Scheduling on Heterogeneous Cyber-Physical Systems," *2026 Design, Automation & Test in Europe Conference (DATE)*, 2026.

2. Erfan Bagheri Soula, Moein Esnaashari, Sepideh Safari, and **Mohsen Ansari**, "LEETMIC: Reinforcement Learning-based Energy-Efficient Task Scheduling in Multicore Cyber-Physical Systems," 2025 IEEE Real-Time Systems Symposium (RTSS), 2025.

3. Abolfazl Younesi, Abbas Shabrang Maryan, Elyas Oustad, Zahra Najafabadi Samani, **Mohsen Ansari**, and Thomas Fahringer, "Splitwise: Collaborative Edge–Cloud Inference for LLMs via Lyapunov-Assisted DRL," *2025 IEEE/ACM 18th International Conference on Utility and Cloud Computing (UCC)*, 2025.

4. S. Galavani, A. Younesi and **M. Ansari**, "QIGA: Quantum-Inspired Genetic Algorithm for Dynamic Scheduling in Mobile Edge Computing," *2025 29th International Computer Conference, Computer Society of Iran (CSICC)*, Iran, Islamic Republic of, 2025, pp. 1-5.

5. S. Khedry, M. H. Keshavarzi, A. S. Maryan and **M. Ansari**, "ELEMENT: Energy and Latency Management with Reinforcement Learning-Based Offloading in Vehicular Edge Computing," *2025 29th International Computer Conference, Computer Society of Iran (CSICC)*, Iran, Islamic Republic of, 2025, pp. 1-5.

6. S. Galavani, S. Mahdizadeh, M. Pourashory, A. M. Rasouli and **M. Ansari**, "Genetic-based Framework for Joint Latency and Cost Reduction in Edge-Fog Environments," *2024 5th CPSSI International Symposium on Cyber-Physical Systems (Applications and Theory) (CPSAT)*, Tehran, Iran, Islamic Republic of, 2024, pp. 1-8.

7. **Mohsen Ansari**, Sepideh Safari, Amir Yeganeh-Khaksar, Roozbeh Syiadatzadeh, Pourya Gohari-Nazari, Heba Khdr, Muhammad Shafique, Jörg Henkel, and Alireza Ejlali "ATLAS: Aging-Aware Task Replication for Multicore Safety-Critical Systems," *in 29th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2023)*, May 9-12, 2023.

8. Farimah R. Poursafaei, Sepideh Safari, **Mohsen Ansari**, Amir Yeganeh-Khaksar, Mohammad Salehi, and Alireza Ejlali, "Energy- and Reliability-Aware Task Replication in Safety-Critical Embedded Systems," *Proc. of the 4th Int'l of the CSI Symposium on Real-Time and Embedded Systems and Technologies (RTEST)*, 2022.

9. Sina Yari-Karin, Ali Sahraei, Javad Saber-Latibari, **Mohsen Ansari**, Nezam Rohbani, and Alireza Ejlali, "A Comparative Study of Joint Power and

Reliability Management Techniques in Multicore Embedded Systems," *Proc. of the 3rd Int'l of the CSI Symposium on Real-Time and Embedded Systems and Technologies (RTEST),* 2020.

10. Zahra Shirmohammadi, **Mohsen Ansari**, Sanaz Kazemi, Sepideh Safari and Seyed-Ghasem Miremadi, "PAM: a Packet Manipulation Mechanism for Mitigating the Crosstalk Faults in NoCs," *Proc. of the 13th IEEE Int'l Conference on Dependable, Autonomic and secure computing (DASC),* Liverpool, England, October, 2015

11. Farimah R. Poursafaei, Sepideh Safari, **Mohsen Ansari**, Mohammad Salehi, and Alireza Ejlali, "Offline Replication and Online Energy Management for Hard Real-Time Multicore Systems," *Proc. of the 1st Int'l of the CSI Symposium on Real-Time and Embedded Systems and Technologies (RTEST),* Tehran, Iran, October, 2015.

12. Sepideh Safari, **Mohsen Ansari**, Zahra Shirmohammadi, and Seyed-Ghasem Miremadi, "The effects of Error Correction and Detection Codes on The Reliability Improvement of NoCs against Crosstalk Faults," *Proc. of the 7th Int'l Conference on Information and Knowledge Technology,* Urmia, Iran, May, 2015 (in Persian).

Honors and Awards

- Recieved the Dr. Kazemi Ashtiani award from national elites fundation of Iran, 2024.
- Recieved the outstanding young researcher award from Sharif University of Technology, 2023.
- Recieved the Dr. Shahriari award (Faculty position) from national elites fundation of Iran, 2022.
- Recieved the Dr. Chamran award (Postdoctoral position) from national elites fundation of Iran, 2021.
- Elected as a national talent, 2016-2022.
- Elected as the premier teacher assistant at Sharif University of Technology, 2017.
- Ranked 3rd out of 1000 graduated students at Sharif University of Technology, 2016.
- Ranked 2nd among 42 graduated students in computer architecture, Department of Computer Science and Engineering, Sharif University of Technology, 2016.
- Admitted as an Exceptional Talent at Sharif University of Technology for M.Sc programs, 2014.
- Ranked 1st out of 160 graduated students in department of engineering at Shahed University, 2014.

Professional Service

- **Editorial Board (Associate Editor):**
  - IEEE Internet of Things Journal, 2025-Present.
  - IEEE Embedded Systems Letters, 2024-Present.
  - Scientia Iranica, 2025-Present.
- **Conference Technical Program Committee Member:**
  - The 2025 International Conference on Computer-Aided Design (ICCAD-2025), TPC.
  - The 29th International Computer Conference, Computer Society of Iran (CSICC 2025), TPC and Web Chair.
  - The 5th CPSSI International Symposium on Cyber-Physical Systems (Application and Theory) (CPSAT 2024), TPC and Industrial Relation Chair.
  - Asia and South Pacific Design Automation Conference (ASP-DAC 2024), TPC.
  - Asia and South Pacific Design Automation Conference (ASP-DAC 2023), TPC.
  - The 28th International Computer Conference, Computer Society of Iran (CSICC 2023), TPC and Publication Chair.
  - Asia and South Pacific Design Automation Conference (ASP-DAC 2022), TPC.
- **Reviewer:**
  - IEEE Transactions on Parallel and Distributed Systems (TPDS).
  - IEEE Transactions on Mobile Computing (TMC).
  - IEEE Transactions on Computers (TC).
  - IEEE Transactions on Circuits and Systems I: Regular (TCAS-I).
  - IEEE Transactions on Consumer Electronics (TCE).
  - IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD).
  - IEEE Transactions on Very Large Scale Integration (VLSI) Systems (TVLSI).
  - IEEE Transactions on Sustainable Computing (TSUSC).
  - IEEE Internet of Things Journal (IoTJ).
  - IEEE Access.
  - IEEE Embedded Systems Letter.
  - IEEE Open Journal of the Computer Society.
  - Plos One, PLOS.
  - ACM Transactions on Design Automation of Electronic Systems (TODAES).
  - ACM Transactions on Embedded Computing Systems (TECS).
  - ACM Transactions on Sensor Networks (TSN).
  - Vehicular Communications, Elsevier.
  - Reliability Engineering and System Safety (RESS), Elsevier.
  - Microprocessors and Microsystems (MICPRO), Elsevier.
  - Journal of Systems Architecture (JSA), Elsevier.

- o **The Journal of Supercomputing, Springer.**
- o **IETE Journal of Research.**
- o **Scientia Iranica - Journal - Elsevier.**
- o **Journal of Circuits, Systems, and Computers (JCSC).**

Teaching Experience

Graduate:

- Cyber-Physical Systems (CPS), Sharif University of Technology, Department of Computer Science and Engineering, Fall 2022 and Fall 2023.
- Edge Computing, Sharif University of Technology, Department of Computer Science and Engineering, Spring 2025.
- System on Chip (SoC), Sharif University of Technology, Department of Computer Science and Engineering, Spring 2023.

Undergraduate:

- Embedded Systems (Undergraduate), Sharif University of Technology, Department of Computer Science and Engineering, Fall 2021, Spring and Fall 2022, Spring 2023, and Fall 2023.
- Real-Time Computing (Undergraduate), Sharif University of Technology, Department of Computer Science and Engineering, Spring 2022.
- Numerical Methods (Undergraduate), Sharif University of Technology, Department of Computer Science and Engineering, Groups 1 & 2, Fall 2018.
- Numerical Methods (Undergraduate), Sharif University of Technology, Department of Computer Science and Engineering, Fall 2017.
- Digital Design (Logic Design) (Undergraduate), Sharif University of Technology, International Campus-Tehran, Fall 2017.