



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. He is currently the director of Cyber-Physical Systems Laboratory (CPSLab) at Sharif University of Technology. He was the technical program committee (TPC) member of ASP-DAC (2022, 2023, and 2024). Dr. Ansari is serving as an associate editor of the IEEE Embedded Systems Letter (ESL). His research interests include embedded machine learning, low-power design, real-time systems, cyber-physical systems, and hybrid systems design.

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## *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
- Internet of Things
- Embedded Machine Learning
- Edge, Fog, and Cloud Computing
- 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, Elyas Oustad, Mohammad Abolnejadian, Mohsen Ansari and Alireza Ejlali, "[MoTiCPS: Energy Optimization on Multi-Objective Task Scheduling in IoT-Integrated Cyber-Physical Systems](#)," in *IEEE Transactions on Sustainable Computing*, 2025.
2. 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.
3. 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.
4. **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.
5. Roozbeh Siyadatzaheh, 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.
6. Sina Yari-Karin, Roozbeh Siadatzaheh, **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.
7. **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.
8. **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 Heterogeneous Real-Time Embedded](#)

- [Systems](#)," *IEEE Transactions on Emerging Topics in Computing*, vol. 10, no. 4, pp. 1883-1897, 1 Oct.-Dec. 2022.
9. 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.
  10. 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.
  11. **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.
  12. 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.
  13. 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.
  14. **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.
  15. 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.
  16. **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.
  17. **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.
  18. **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.
  19. **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).

20. 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.
21. **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.
22. 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.
23. **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. Sadra Galavani, Abolfazl Younesi and Mohsen Ansari, "QIGA: Quantum-Inspired Genetic Algorithm for Dynamic Scheduling in Mobile Edge Computing," *2025 29th International Computer Conference, Computer Society of Iran (CSICC)*, Tehran, Iran, Islamic Republic of, 2025, pp. 1-7.
2. Sadegh Khedry, Mohammad Hadi Keshavarzi, Abbas Shabrang and Mohsen 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)*, Tehran, Iran, Islamic Republic of, 2025, pp. 1-7.
3. 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.
4. **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.
5. 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.
6. 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.*

7. 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
8. 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.
9. 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.



- **Editorial Board (Accosiate Editor):**
  - IEEE Embedded Systems Letters, 2024-Present.
- **Conference Technical Program Committee Member:**
  - The 29th International Computer Conference, Computer Society of Iran (CSICC 2025), TPC and Website and Internet 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.
- **Reviewer:**
  - IEEE Transactions on Parallel and Distributed Systems (TPDS).
  - 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 Design Automation of Electronic Systems (TODAES).
  - ACM Transactions on Embedded Computing Systems (TECS).
  - ACM Transactions on Sensor Networks (TSN).
  - ACM Transactions on Architecture and Code Optimization (TACO).
  - Vehicular Communications, Elsevier.
  - Reliability Engineering and System Safety (RESS), Elsevier.
  - Microprocessors and Microsystems (MICPRO), Elsevier.
  - Journal of Systems Architecture (JSA), Elsevier.
  - The Journal of Supercomputing, Springer.
  - IETE Journal of Research.
  - Scientia Iranica - Journal - Elsevier.
  - Journal of Circuits, Systems, and Computers (JCSC).

## *Teaching Experience*

### **Graduate:**

- Edge Computing, Sharif University of Technology, Department of Computer Science and Engineering, Spring 2025.
- Cyber-Physical Systems (CPS), Sharif University of Technology, Department of Computer Science and Engineering, Fall 2022, Fall 2023, and Fall 2024.
- System on Chip (SoC), Sharif University of Technology, Department of Computer Science and Engineering, Spring 2023 and Spring 2024.

### **Undergraduate:**

- Embedded Systems (Undergraduate), Sharif University of Technology, Department of Computer Science and Engineering, Fall 2021, Spring and Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024, and Spring 2025.
- 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.