

Komeil Moghaddasi

Miandoab, Iran

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Education

Master of Science in Information Technology (Major in E-Commerce) (Sep. 2021 - Sep. 2023)

Islamic Azad University (Urmia, Iran)

Thesis Title: An energy-aware approach for increasing performance and security of IoT task offloading on mobile edge computing.

(Passed by A+ Mark)

Supervisor: Prof. Farhad Soleimanian Gharehchopogh

GPA: 17.23 out of 20.0 (Average GPA based on departement report: 17).

Bachelor of Science in Computer Engineering (Major in Software) (Feb. 2013 - Jan. 2019)

Islamic Azad University (Miandoab, Iran)

GPA: 13.55 out of 20.0 (Average GPA based on departement report: 16.50).

Research Interests

- Computer Networks
- Wireless Communications
- Parallel and Distributed Computing
- Optimization Reinforcement Learning Algorithms in Distributed Systems
- Federated Learning
- Blockchain

Research Experience

Islamic Azad University (Urmia, Iran). Supervisor: Prof. Farhad Soleimanian Gharehchopogh

- **Energy Efficiency in 5G Vehicular Edge Networks** (2022). Focused on analyzing energy and communication challenges in 5G and vehicular edge computing using DRL methods. Developed and implemented DDQN, compared it with A3C and DQN, and conducted simulations under various network conditions.
- **IoT Task Offloading with Blockchain** (2021-2022). Investigated offloading challenges in mobile edge computing environments. Developed a secure, decentralized offloading framework using DDQN integrated with TOPSIS. Evaluated the framework with a custom IoT-MEC interaction dataset against baseline methods.
- **DRL Algorithms for IoT Performance Optimization** (2023). Designed and implemented Rainbow DQN for optimization in a three-tier (D2D, edge, cloud) system. Focused on improving energy efficiency, reducing latency, and enhancing utility in IoT environments.
- **Internet of Vehicles Performance with Cloud/Edge Networks** (2023). Developed a CNN-based A3C algorithm to optimize IoV offloading as an MDP. Conducted comparative performance analyses using TensorFlow within a simulated environment.

DTU AI and Data Science Hub (DAIDASH) (Da Nang, Vietnam) Supervisor: Dr. Mehdi Hosseinzadeh

- **Resource Allocation and Multi-task Offloading** (2024). Engaged in the development and refinement of a DDQN algorithm for context-aware decision-making in high-mobility vehicular networks. Contributed to the revision of manuscript for publication.

Academic Experiences

Reviewer, at peer-reviewed journals. (May, 2024 - Present)

- Robotics and computer-integrated manufacturing - [Certificate](#)
- Ocean engineering - [Certificate](#)
- IEEE ACCESS - [View](#)
- IEEE ACCESS - [View](#)
- IEEE ACCESS - [View](#)

Teaching Assistant, at Islamic Azad University (Urmia, Iran).

- “Machine Languages and System Planning” courses for undergraduate students. (Mar. 2023 - Jun. 2023)
- “Machine Learning and Computer Networks” courses for undergraduate students. (Mar. 2023 - Jun. 2023)
- “Computer Simulation” course for graduate students. (Sep. 2022 - Feb. 2023)

Membership

- “IEEE Member.” (2022 - Present)
- “Member of the Computer Society at Urmia Azad University.” (2022 - 2024)

Publications

- **Moghaddasi, K.**, Rajabi, S., Soleimani Gharehchopogh, F., & Ghaffari, A. (2024). An Advanced Deep Reinforcement Learning Algorithm for Three-Layer D2D-Edge-Cloud Computing Architecture for Efficient Task Offloading in the Internet of Things. Sustainable Computing: Informatics and Systems. link: <https://www.sciencedirect.com/science/article/abs/pii/S2210537924000374> (Elsevier - IF: 3.8 - Q1)
- Min, H., Rahmani, A., Ghaderkhourehpaz, P., **Moghaddasi, K.**, & Hosseinzadeh, M. (2024). A Joint Optimization of Resource Allocation Management and Multi-Task Offloading in High-Mobility Vehicular Multi-Access Edge Computing Networks. Ad Hoc Networks. link: <https://www.sciencedirect.com/science/article/abs/pii/S1570870524002671> (Elsevier - IF: 4.4 - Q1)
- **Moghaddasi, K.**, Rajabi, S., & Soleimani Gharehchopogh, F. (2024). Multi-Objective Secure Task Offloading Strategy for Blockchain-Enabled IoV-MEC Systems: A Double Deep Q-Network Approach. IEEE Access. link: <https://ieeexplore.ieee.org/abstract/document/10378647> (IEEE - IF: 3.4 - Q1)
- **Moghaddasi, K.**, Rajabi, S., & Soleimani Gharehchopogh, F. (2024). An Enhanced Asynchronous Advantage Actor-Critic-based Algorithm for Performance Optimization in Mobile Edge Computing-enabled Internet of Vehicles Networks. Peer-to-Peer Networking and Applications. link: <https://link.springer.com/article/10.1007/s12083-024-01633-x> (Springer - IF: 3.3 - Q2)
- **Moghaddasi, K.**, Rajabi, S., Soleimani Gharehchopogh, F., & Hosseinzadeh, M. (2023). An Energy-Efficient Data Offloading Strategy for 5G-enabled Vehicular Edge Computing Networks Using Double Deep Q-Network. Wireless Personal Communications. link: <https://link.springer.com/article/10.1007/s11277-024-10862-5> (Springer - IF: 1.9 - Q2)
- **Moghaddasi, K.**, & Masdari, M. (2023). Blockchain-driven optimization of IoT in mobile edge computing environment with deep reinforcement learning and multi-criteria decision-making techniques. Cluster Computing Journal. link: <https://link.springer.com/article/10.1007/s10586-023-04195-4> (Springer - IF: 3.6 - Q1)

Conferences

- **Moghaddasi, K.**, & Rajabi, S. (2023). Double Deep Q-Learning Networks for Energy-Efficient IoT Task Offloading in D2D MEC Environments. In Conference 2023 7th International Conference on Internet of Things and Applications (IoT). link: <https://ieeexplore.ieee.org/abstract/document/10365356>.
- **Moghaddasi, K.**, & Rajabi, S. (2023). Learning at the Edge: Mobile Edge Computing and Reinforcement Learning for Enhanced Web Application Performance. In Conference 2023 9th International Conference on Web Research (ICWR). link: <https://ieeexplore.ieee.org/abstract/document/10138952>.
- Rajabi, S. & **Moghaddasi, K.** (2023). IoT-Driven Water Quality Management System using Deep Q-Network. In 2023 14th International Conference on Information and Knowledge Technology (IKT). link: <https://ieeexplore.ieee.org/abstract/document/10138952>.

Achievements & Awards

- Full mark achieved for M.Sc. Thesis, Islamic Azad University, Urmia, Iran. (2023)
- Among top-ranked graduate students in terms of GPA during the M.Sc. level at the Islamic Azad University, Urmia, Iran. (2022)
- 1st rank of province swimming champion. (2018)
- 2nd Place in Table Tennis at the Provincial Level. (2016)
- 2nd Place in Chess in the County. (2008)

Notable Courses

- “Computer Architecture”: (20.0 out of 20.0)
- “Research Methodology”: (20.0 out of 20.0)
- “Software Architecture”: (20.0 out of 20.0)
- “Organizational Information Security Architecture”: (18.0 out of 20.0)
- “Data Mining”: (17.0 out of 20.0)
- “Computer Networks”: (17.0 out of 20.0)
- “Intelligent Decision Support Systems”: (16.0 out of 20.0)

Core Skills

- **Attended Courses:** Network+, CCNA, Python, Machine Learning, Deep Learning, WordPress, HTML, CSS, JavaScript, ...
- **Data Science & Machine Learning:** Python, TensorFlow, PyTorch, NumPy, Pandas, SciPy, Matplotlib, Scikit-learn, Docker, AWS, SQL... .
- **Simulation Environments:** OpenAI Gym, OMNeT++, NS3.
- **Web Development:** HTML, CSS, JavaScript.
- **Computer Applications:** Microsoft Office Suite (Word, Excel, PowerPoint), Adobe Creative Suite (Photoshop, XD) and

Soft Skills

- Analytical Thinking
- Attention to Detail
- Adaptability
- Effective Communication
- Team Collaboration
- Continuous Learning

Languages

- **Persian/Azerbaijani/Turkish** (Native)
- **English** (IELTS Overall Band Score 7)

Activities

- **Hobbies:**
 - Swimming | Photography | Reading | Cinema | Astrophilately | Youtube | Learning

References

- **Farhad Soleimanian Gharehchopogh** (Associate Professor and Chair) | Computer Engineering Department, Islamic Azad University, Urmia, Iran.
Email: Farhad.soleimanian@iau.ac.ir
- **Ali Ghaffari** (Associate Professor) | Computer Engineering Department, Islamic Azad University, Tabriz, Iran.
Email: A.ghaffari@iaut.ac.ir
- **Mehdi Hosseinzadeh** (Assistant Professor) | School of Computing, Macquarie University, Sydney, Australia.
Email: Mehdi.hosseinzadeh@mq.edu.au