Iman Rahmati

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Research Interests: Distributed Systems, Mobile Edge Computing, Deep Reinforcement Learning, Federated Learning, Software Defined Networking, Performance Evaluation

EDUCATION

MSc. Computer Software Engineering Sharif University of Technology (SUT)
Graduated Sep 2022, 17.36/20 GPA (23 units)
Thesis Title: A Novel Resource Allocation Algorithm in Edge Computing with Deep Reinforcement Learning
Supervisor: Prof. Ali Movaghar

BSc. Industrial Engineering Khajeh Nasir Toosi University of Technology (KNTU)
Graduated Sep 2019

PUBLICATION

I. Rahmati, H. Shah-Mansouri, A. Movaghar, "QOCO: A QoE-Oriented Computation Offloading Algorithm based on Deep Reinforcement Learning for Mobile Edge Computing", submitted to IEEE Internet of Things Journal 2023.

ACADEMIC EXPERIENCE

Research Assistant

- **Research Assistant at Performance and Dependability Laboratory (PDL)**
  Supervisor: Prof. Ali Movaghar SUT, 2020-present
  Research Theme: Designed and implemented an algorithm leveraging deep reinforcement learning to optimize computation offloading decisions within mobile edge computing, with a primary focus on enhancing the Quality of Experience (QoE) for end-users of mobile applications.

Teaching Assistant

- **Performance Evaluation of Computer Systems (Head TA)** SUT, 2020-present
  Prof. Ali Movaghar and Dr. Mahdi Dolati
- **Software Defined Networking (Head TA)** SUT, 2022
  Prof. Ali Movaghar and Dr. Mohammad Hosseini
- **Verification of Reactive Systems** SUT, 2021
  Prof. Ali Movaghar
- **Theory of Machines and Languages** SUT, 2021
  Prof. Ali Movaghar

Sub-Reviewer at 27th International Computer Conference CSICC, 2022
Computer Society of Iran (CSICC)
IEEE website published papers from this conference.

HONORS

- ❖ Ranked Top 25% in the Department of Computer Engineering among M.Sc. Students, SUT, Class 2019 Jul 2022
- ❖ Ranked 55^{th} among 30,000 Participants in the Nationwide University Entrance Exam of Computer Engineering for M.Sc. in the Field of Software Engineering Aug 2019
- ❖ Ranked Top 1% among 180,000 Participants in the Nationwide University Entrance Exam for B.Sc. in the Field of Mathematics and Physics Jul 2014
- ❖ Achieving the 3^{th} position in the RoboCup Competition (IranOpen) Mar 2012

ACADEMIC PROJECTS

- **QoE Maximization in Mobile Edge Computing** SUT, 2021
  Optimizing Decision-Making for Computation Offloading in Mobile Edge Computing using Deep Reinforcement Learning (Dueling Deep Q-Networks)
  Supervisor: Prof. Ali Movaghar and Dr. Hamed Shah-Mansouri
- **Mobile Edge Computing Environment** SUT, 2021
  Modeling and Simulation of Mobile Edge Computing under Resource Constraints for Delay and Energy Optimization
  Supervisor: Prof. Ali Movaghar
- **Time Series Analysis** SUT, 2021
  Design a Model for forecasting Edge Server Workload using Recurrent Neural Networks such as Long Short Term Memory
  Supervisor: Prof. Ali Movaghar
- **Computer Performance Evaluation** SUT, 2020
  Simulation and Performance Analysis of M/M/1/K Queue Model with Varied Service Orders (FCFS, Processor Sharing, Discriminatory Processor Sharing)
  Supervisor: Prof. Ali Movaghar
- **Distributed Systems** SUT, 2019
  A Survey on 'Verification of Paxos and Raft Protocols in Distributed Consensus'
  Supervisor: Dr. Mohammad Izadi
- **Industrial Facilities Planning** KNTU, 2018
  Operational Sequence of Activities (Material Flow) and Establishment of Industrial Units in the Process of Gears Manufacturing in an Automaker Company
  Supervisor: Dr. Donya Rahmani
- **Project Management and Control** KNTU, 2017
  Scheduling, Time management and Resource Allocation in a Construction Project
  Supervisor: Dr. Amir Abbas Najafi

SELECTED COURSES

- Theory of Distributed Systems
- Verification of Reactive Systems
- Advanced Computer Networks
- Mobile Communications
- Computer Performance Evaluation
- Wireless Networking
- Advanced Network Security
- Computer Network Management

SKILLS

- **General:** Networking, Mobile Edge Computing, Deep Reinforcement Learning
- **Programming Languages:** Python, R, Bash, C++, LaTeX
- **Machine Learning:** TensorFlow, PyTorch, Scikit-learn
- **Data Analysis:** Pandas, NumPy, Matplotlib
- **Frameworks & Tools:** Linux, Mininet, Ns-3, Git, Vim, Flask, Office, Visio
- **Language Proficiency:** Farsi (Native), English (Working proficiency)
  TOEFL (IBT) Score: The score will be determined by the 10^{th} of December.

CERTIFICATION

Deep Reinforcement Learning Start-Tech Academy, 2021
- Certification of Completion in Udemy Online Course

Machine Learning and Deep Learning in Python and R Start-Tech Academy, 2020
- Certification of Completion in Udemy Online Course

Data Science Tose'e Higher Education Institute, 2019
- Certification of Completion in Data Science Course, Inst: Dr. Yaser Zerehsaz

Advanced Python Topics Remis Arjang Institute, 2018
- Certification of Completion in Advanced Python Course, Inst: Dr. Peyman Hooshmandi

LPIC1 Anisa Iran Linux House, 2017
- Certification of Completion in Linux Administrator Course, Inst: Dr. Mohammad Shakeri

REFERENCES

Prof. Ali Movaghar movaghar@sharif.edu
Professor of Computer Science and Engineering Department, SUT

Dr. Hamed Shah-Mansouri hamedsh@sharif.edu
Assistant Professor of Electrical Engineering Department, SUT

Prof. Ali Mohammad Afshin Hemmatyar hemmatyar@sharif.edu
Professor of Computer Science and Engineering Department, SUT

Dr. Mahdi Dolati mahdidolati@ut.ac.ir
Postdoctoral of Institute For Research In Fundamental Sciences Researcher (IPM)

Further information and Proofs are available upon Request.