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 55th 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 1st 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: Awaiting results (to be determined by the 1st 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)
Dr. Mohammad Hosseini ⌇   hosseini@ipm.ir
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