Iman Rahmati

updated: 1 Dec 2023

Email: iman.rahmati@sharif.edu imanrht@gmail.com
Web page: imanrht.github.io
Github: https://github.com/ImanRHT
Linkedin: linkedin.com/in/iman-rahmati

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

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 in 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.

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.
- I. Rahmati, H. Shah-Mansouri, A. Movaghar, "Federated Deep Reinforcement Learning for Dependent Task Offloading in Mobile Edge Computing", work in progress.

HONORS

- ❖ Ranked Top 10% 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, 2022
  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
- **Design 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
- **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	4/4	- Wireless Networking	4/4
- Computer Performance Evaluation	4/4	- Computer Network	4/4
- Verification of Reactive Systems	4/4	- IT Enterprise architecture	4/4
- Advanced Network Security	4/4	- Computer Network Management	3.9/4

SKILLS

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

CERTIFICATION

Interactive Learning Tehran Institute for Advanced Studies (TeIAS), 2021
Certification of Completion in Deep Reinforcement Learning Course, Inst: Prof. Majid Nili Ahmadabadi
Machine Learning and Deep Learning in Python 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
Visiting Professor of Computer Science Department, University of Michigan
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
Postdoctoral of Institute For Research In Fundamental Sciences Researcher (IPM)