# Iman Rahmati

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, Distributed Machine 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, 2019-2022
  **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 for end-users of mobile applications.

### Teaching Assistant

- **Performance Evaluation of Computer Systems (Head TA)** SUT, 2020-2022
  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 $55^{th}$ 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 Prof. 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
- **Production Planning Optimization** KNTU, 2017
  Maximizing profit involves determining the optimal quantity of each product to produce, taking into account production costs and demand.
  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: 108/120 (R: 30, L: 28, S: 22, W: 28)

## 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. Amir Abbasi

## REFERENCES

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

**Prof. 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. Mohammad Hosseini** hosseini@ipm.ir
Postdoctoral of Institute For Research In Fundamental Sciences Researcher (IPM)

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