

MAHTA AHMADI

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EDUCATION

- Master of Electrical Engineering, Communication Systems** 2018-2021
 Sharif University of Technology
 GPA: 14.91/20, Ranked as [1st university in Iran and 334th in World](#) based on QS Ranking.
- Bachelor of Electrical Engineering, Communications** 2014-2018
 University of Isfahan
 GPA: 18.15/20

THESIS

M.Sc. Thesis: Energy Efficiency in Elastic Optical Networks

Supervisor: Dr. Mohammad Reza Pakravan, Advisor: Dr. Mohammad Hadi

- Description: This thesis presents a novel power-efficient joint dynamic resource allocation scheme that optimally allocates computation and communication resources in an inter-data center elastic optical network. The proposed scheme maintains delay and service outage within acceptable limits while accommodating varying service requirements and leveraging these differences to enhance overall power efficiency.

B.Sc. Thesis: Function of Coding for Distributed Computations in a Queue

Supervisor: Dr. Farzad Parvaresh

- Description: Straggler nodes significantly challenge the performance of distributed machine learning algorithms in large-scale systems. This work conducts simulations in various scenarios to evaluate the effectiveness of redundancy through coding techniques across multiple nodes in enhancing overall speed.

PUBLICATION

M. Ahmadi, M. Hadi, and M. R. Pakravan, "Power-efficient joint dynamic resource allocation in virtualized inter-data center elastic optical networks," IEEE Access, 2024.

HONORS AND AWARDS

- Ranked 1st** in the exam conducted by the Ministry of Science, Research and Technology for employment at the University of Isfahan. 2021
- Ranked 6th** in the Iran Nation-wide University Entrance Exam Known as Konkoor for M.Sc degree, among +22,000 test-takers. 2018
- Ranked 1st** GPA among the graduated class of 2018 in B.SC program at University of Isfahan. 2018
- Ranked top 2.5%** in the Iran Nation-wide University Entrance Exam Known as Konkoor for B.Sc degree, among +220,000 test-takers. 2014

RESEARCH INTERESTS

Networks
 Resource Allocation
 Optimization

Deep Learning
 Federated learning

TEACHING EXPERIENCES

Lecturer:

- Microcontrollers Laboratory, University of Isfahan. Fall 2024
- Digital Communications Laboratory, University of Isfahan. Spring 2023, 2024
- Digital Signal Processing Laboratory, University of Isfahan. Spring 2023, 2024
- Principles of Electronics Laboratory, University of Isfahan. Fall 2023
- Electrical Circuits Basics, Online Teaching on the Learnby Educational Platform. Spring 2022
- Web Development Basics, Online Teaching at Esoft Educational Academy. 2021-2022

Teaching Assistant:

- Data Networks, Sharif Univesity of Technology. Spring 2020

Others:

- Design Mock Test of the Iran Nation-wide University Entrance Exam Known as Konkoor for M.Sc degree at Alpha Consultant Institution. 2018 - 2020

WORK EXPERIENCE

Current Employment*University of Isfahan, Department of Electrical Engineering*2022 - Present
Isfahan, Iran

- Laboratory Lecturer and Coordinator.
- Researched on privacy-preserving machine learning aims to provide innovative solutions for secure aggregation in federated learning, under the supervision of Dr. Parvaresh.
- Completed the Deep Learning course taught by Dr. Kazemi.
- Prepared analytical reports on electrical engineering faculty and student performance to enhance management.

Volunteer Experience*2nd Isfahan Job Fair*January 2024
Isfahan, Iran

- Executive team in organizing, coordinating, marketing, and providing consulting services.

Part-time Work*Bamboo Technical and Engineering Company*2021 - 2022
Tehran, Iran

- Front-end web developer.

Internship*University of Isfahan, Department of Electrical Engineering*Summer 2018
Isfahan, Iran

- Implemented rotation and scale-invariance template matching with the incorporation of circular and radial filters to achieve minimal processing time.
- Configured FPGA training board by applying the necessary settings.
- Supervisor: Dr. Mohammad Kazemi

SELECTED COURSES AND GRADES (OUT OF 20)

Advanced Data Networks	16.50	Fundamentals of Wireless Communications	18.10
Statistical Learning	15.60	Communication Systems	19.78
Random Processes	16.50	Fields and Waves	19.75
Linear Algebra	20	Signals and Systems	20

LANGUAGES

Persian: Native
English: Fluent -IELTS will be taken in November 2024.

COMPUTER SKILLS

- Programming Languages: MATLAB, Python, VHDL
- Software Applications: LaTeX, CodeVision, Proteus, Altium Designer
- Web Development: HTML, CSS, JavaScript, React.js

INTERESTS

Mountain Climbing
Bodybuilding

Painting
Story Writing

REFERENCES

Dr. Mohammamad Hadi

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Dr. Farzad Parvaresh

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Dr. Mohammad Kazemi

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