Reza Kahidi

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Tehran, Iran

Education

- **School of Electrical and Computer Engineering, University of Tehran** — Tehran, Iran
  M.Sc. in Communication Networks — *2022 - 2025*
  - Thesis Title: Service Function Chain Offloading in Mixed-Critical Scenarios
  - Supervisor: Prof. Mehdi Kargahi
  - GPA: 19.05/20 (4/4)

- **Electrical and Computer Engineering Department, Jundi Shapur University of Technology** — Dezful, Iran
  B.Sc. in Electrical Engineering — *2017 - 2021*
  - Thesis Title: Design and Implementation of a Real-Time Controller for Capturing Images and Writing Data to SRAM Memory in FPGA
  - Supervisor: Dr. Mohsen Shakiba
  - GPA: 17.28/20 (3.53/4)
  - Last Two Years GPA: 18.53/20 (3.96/4)

Research Interests

- Computer Networks
- Distributed Systems
- Programmable Networks
- Cloud/Edge Computing
- Machine Learning Systems

Skills

- **Programming Languages:** Python (NumPy, Pandas, Scikit, CVXPY, Matplotlib, Seaborn, PyTorch, Scapy, Networkx), Java, C, MATLAB, R, VHDL, Bash, LaTeX, P4
- **Tools & Technologies:** Xilinx ISE, Docker(Swarm), Virtualization (VMware), Proteus, PSpice, HSpice, Arduino IDE, Mininet
- **Languages:** Persian (native), English (TOEFL Score 99/120 [R:26/30, L:30/30, S:21/30, W:22/30])

Academic Experience

- **University of Tehran**
  Research Assistant - Prof. Mehdi Kargahi — *Sep 2023 - Sep 2025*
  - Activities: 1- Developed a novel placement algorithm for deploying Service Function Chains (SFC) across a data center topology. 2- Implemented a fault-tolerant state replication protocol for stateful Service Function Chains on programmable switches. 3- Designed and implemented both slack-based and criticality-based, real-time scheduling mechanisms directly in the data plane to provide low-latency guarantees for high-priority flows and critical SFCs. 4- Built and utilized a complete emulation environment with Mininet to test and verify the system's fault tolerance, scheduling accuracy, and overall performance.
  - Skills: P4, Python, Mininet

- **University of Tehran**
  Teaching Assistant - Prof. Naser Yazdani - Advanced Operating Systems — *Feb 2025 - Sep 2025*

- **University of Tehran**
  Teaching Assistant - Prof. Naser Yazdani - Advanced Computer Mathematics — *Oct 2024 - Feb 2025*

- **Jundi Shapur University of Technology**
  Research Assistant - Dr. Mohsen Shakiba — *Oct 2020 - Oct 2021*
  - Activities: 1- Designed a controller to capture images from an OV7670 camera module and store them in SRAM. 2- Implemented I2C communication protocol between the camera and FPGA. 3- Utilized Xilinx Spartan 6 FPGA for real-time image processing.
  - Skills: VHDL, Xilinx ISE

Honors and Awards

- **Awarded an Excellent Grade for the MSc Thesis Defense** *Oct 2025*
  University of Tehran
- **University of Tehran Support Foundation Grant for Outstanding Academic Performance** *Oct 2023*
  University of Tehran
- **Ranked 85th Among Approximately 20,000 Participants in MSc Entrance Exam** *Sep 2022*
- **Offered Admission to MSc Program Without Entrance Exam as an Talented Student** *Oct 2021*
  Jundi Shapur University of Technology
- **Ranked in the Top 10 Among All Bachelors Electrical Engineering Students** *Oct 2021*
  Jundi Shapur University of Technology
- **Ranked 2nd Among All Bachelors Electronics Students** *Oct 2021*
  Jundi Shapur University of Technology

Selected Projects

- **Network Monitoring and Analysis** *Jun 2023 - Jul 2023*
  Tools: ELK(Elasticsearch, Logstash, Kibana)
  ◦ Implemented a full-stack network monitoring and analysis solution by integrating an Intrusion Detection System (IDS) with the ELK stack for real-time threat detection.
- **Operating System** *Jun 2024*
  Tools: Xv6, C
  ◦ Developed shell scripts, multi-threaded C programs, and kernel-level features for xv6, including custom system calls and a IPC mechanism.
- **Convex Optimization** *Feb 2024 - Jun 2024*
  Tools: Python, Jupyter Notebook [GitHub]
  ◦ Applied convex optimization techniques to solve diverse real-world problems.
- **Java Simulation Toolkit for Queuing Networks** *Jun 2023 - Jul 2023*
  Tools: Java [GitHub]
  ◦ Developed utilities including a statistic collector, an event list, and an event handler to streamline the simulation of queuing networks.
- **Music Mode and Instrument Recognition using Machine Learning** *Jan 2023 - Mar 2023*
  Tools: Python [GitHub]
  ◦ Developed machine learning models to classify the Dastgah (musical mode) of traditional Iranian music.

Selected Courses (Graduate courses are indicated by †)

- Cellular Networks † 19.5/20
- Performance Evaluation of Computer Systems † 20/20
- Internet Measurement † 20/20
- Advanced Computer Mathematics † 18.9/20
- Advanced Operating Systems † 19.4/20
- Machine Learning † 20/20
- Convex Optimization † 18/20
- Fundamentals of Communications Systems 19/20
- Hardware Description Language Programming 19.4/20
- Digital Signal Processing 19/20
- Microcontrollers 19/20
- Digital Logic Circuits 20/20
- Electronics II 19/20
- Electronics III 20/20