

Mohammad Farhoudi

☎ (+358) 41 580 85 31

✉ mohammad.farhoudi@{oulu.fi} – <https://gitlab.com/mamadzebal>
16th July 1990

Education

University of Oulu

Ph.D. in Centre of Wireless Communication - Networks and Systems
Thesis – Autonomous Service Discovery and Composition in Next Generation Mobile Systems.
Advisor – Professor Tarik Taleb

2022–present
Oulu - Finland

Amirkabir University of Technology

Master of Science in Computer Networking, GPA – 3.88/4 (18.78/20)
Thesis – Server Load Balancing in Software-defined Networks (SDN).
Advisor – Professor Masoud Sabaei

2014–2017
Tehran - Iran

Amirkabir University of Technology

Bachelor of Information Technology Engineering, GPA Last 70 courses – 3.44/4 (16.8/20)
Thesis – Design and Implementation of Users Trust in Online Communication.
Advisor – Professor Hamidreza Shahriari

2008–2013
Tehran - Iran

Research Interests

Service Orchestration: Proficient in orchestrating services within the dynamic B5G and 6G edge-cloud continuum, with expertise in service discovery, resource allocation, service indexing, registration, and selection processes.

AI/ML: Skilled in utilizing AI/ML techniques, including deep learning and reinforcement learning with double deep Q network or actor critic, to predict behaviors in mobile and unknown environments. Constantly exploring new methods to enhance exploration and optimize predictive models.

SFC: Experienced in managing the chain of services or service composition to improve orchestration and deployment/placement strategies while efficiently allocating resources.

SDN/NFV: Well-versed in leveraging SDN/NFV technologies to optimize network performance and resource utilization through software-based approaches and VNF-based service instances.

Teaching Experience

Teaching

Amirkabir University of Technology

Instructor of Computer Network Laboratory.

Spring 2015, Fall 2014

Amirkabir University of Technology

Instructor of Networking in Linux & Bash sections at 6th, 7th national Linux festival.

Spring 2013 & 2014

Iran Telecommunication Infrastructure Company

Instructor of Deep Understanding of SDN and OpenFlow

Spring 2019

Iran Telecommunication Infrastructure Company

Workshop Instructor of Prototyping SDN environment with OVS switches

Summer 2019

Teaching Assistant (responsible for giving lectures, grading, preparing homework)

and projects)

Amirkabir University of Technology
Computer Network 1

Prof. Sabaei, Prof. Khorsandi
Fall 2013, Spring 2014, Spring 2016

Amirkabir University of Technology
Computer network 2

Prof. Sabaei
Spring 2014

Amirkabir University of Technology
Operating Systems

Dr. Parsaei Fard, Dr. Taheri Javan
Fall 2016, Spring 2016

Amirkabir University of Technology
High Performance Switches and Routers

Prof. Sabaei
Fall 2016

Job Experience

Network Researcher

Iran Telecommunication Infrastructure Company

Tehran, Iran

Designing and prototyping an Integrated architecture of Data and Transport Networks based on SDN and NFV technologies

2018-2020

Developer

Netbina Advertising Agency

Tehran, Iran

Working as a customer section manager

2020-2022

Saba System Sadra (Senior Developer)

Tehran, Iran

Products including: AZARAM WAF, MAVARA SIEM, KANDOO HONEYPOT, EVENTO

2014-2018

Network Administrator (troubleshooting CEIT network)

Tehran, Iran

Computer engineering and IT department of AUT

2011-2012

Skills

Programming Language: PYTHON, JAVA, C, C++, QT, SHELL SCRIPT

Networking Tools: TCPDUMP, WIRESHARK, IPTABLES, SCAPY, SNMPWALK, NETCAT, NC, TC, NMAP, AIRCRACK, TCPREPLAY, OPENNMS, NET-SNMP, DUDE, SOLARWINDS

Networking Simulations/Emulations: PACKET TRACER, GNS3, MININET, OVS

SDN Controllers: FLOODLIGHT, POX, OPENDAYLIGHT

Machine Learning: DEEP LEARNING, REINFORCEMENT LEARNING, LINEAR REGRESSION, LOGISTIC REGRESSION, ARTIFICIAL NEURAL NETWORK, LSTM, CNN CLASSIFICATION, CLUSTERING, SVM, PCA, OCR

Publications

- 1) M. Farhoudi, M. Shokrnezhad, R. Li, J. Song, and T. Taleb, "Discovery of 6G Services and Resources in Edge-Cloud-Continuum" in IEEE Network, 2024, doi: 10.1109/MNET.2024.343809.
- 2) M. Farhoudi, M. Shokrnezhad, and T. Taleb, "QoS-Aware Service Prediction and Orchestration in Cloud-Network Integrated Beyond 5G", Kuala Lumpur, Malaysia, 2023.
- 3) M. Farhoudi, P. Habibi, M. Sabaei, "Server Load Balancing in Software-Defined Networks," 2018 9th International Symposium on Telecommunications (IST), Tehran, Iran, 2018, pp. 435-441.
- 4) M. Farhoudi, M. Shokrnezhad, S. Kianpisheh, and T. Taleb, "Adaptive Service Placement and Composition for Aerial-Terrestrial 6G Networks". (Submitted to WCNC 2025)
- 5) P. Habibi, S. Baharlooei, M. Farhoudi, S. Kazemian, "Virtualized SDN-Based End-to-End Reference Architecture for Fog Networking", International Conference on Advanced Information Networking and Applications Workshops (WAINA), Krakow, Poland, 2018, pp. 61-66.
- 6) F. Tajedin, M. Farhoudi, A. Samiei, B. Akbari, "DTE:Dynamic Traffic Engineering in Software Defined Data

Center Networks", International Conference on Computer Engineering, Network, and Intelligent Multimedia (CENIM), Surabaya, Indonesia, 2019, pp. 1-6.

7) P. Habibi, M. Farhoudi, S. Kazemian, S. Khorsandi and A. Leon-Garcia, "Fog Computing: A Comprehensive Architectural Survey," in IEEE Access, 2020.

Awards

2017: Iranian National Elites Foundation grant for graduate studies, for outstanding academic success (2017–2019)

2017: Ranked 62 in the "*National Phd university entrance examination*" among all Iranian students in information technology discipline (practically 100,000 participants).

2016: Ranked as the fourth top MSc student in information technology and computer engineering, Amirkabir University of Technology.

2014: Ranked 42 in the "*National master university entrance examination*" among all Iranian students in information technology discipline (almost 200,000 participants).

2013: Ranked top 5% among all computer engineering and information technology students.

2004: Iranian education ministry's robocop team member.

Extra Curricular Activities

2012-2013: Head of CEIT's scientific association (student council).

September 2012: Head of national cloud computing conference execution committee.

June 2012: Head of 1th national game programming workshop execution committee.

May 2012: Head of 5th national linux festival scientific committee.

Human Languages

Persian: Mothertongue

Proficient

English: Master [TOEFL:99/120 (Reading:27,Listening:25,Speaking:24,Writing:23)] *Conversationally fluent*

References

Prof. Tarik Taleb

Professor

Ruhr University Bochum (RUB), Gemenay

tarik.taleb@rub.de

Masoud Shokrnezhad

Postdoc

Oulu University, Finland

masoud.shokrnezhad@oulu.fi