

KAVEH VAEZI

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RESEARCH INTERESTS

- Performance analysis of wireless networks
- 5G cellular networks & beyond
- Performance analysis of wireless networks
- Age of Information (AoI)
- Application of learning techniques in communication networks
- Caching systems

PROFESSIONAL SKILLS

- Markov analysis, QBD-type Markov processes and its applications
- Markov Decision Processes (MDP) and its applications
- Queueing theory, queueing networks and its applications
- Statistical analysis
- Multi-Armed Bandit (MAB) problems
- Learning techniques and their applications in communication networks

EDUCATION

Ph.D. in Electrical Engineering / Communications Systems

EE Department, Sharif University of Technology, Tehran, Iran

GPA: **18.87 out of 20**

Sep. 2009 - Oct. 2019

M.Sc. in Electrical Engineering / Communications Systems

EE Department, Sharif University of Technology, Tehran, Iran

GPA: **17.44 out of 20**

Sep. 2007 - Sep. 2009

B.Sc. in Electrical Engineering / Communications

EE Department, Shahid Bahonar University of Kerman, Kerman, Iran

GPA: **18.93 out of 20**

Sep. 2003 - Sep. 2007

RESEARCH EXPERIENCE

Postdoctoral Fellow

Electrical and Electronics Engineering Department, Bilkent University, Ankara, Turkey

I worked as a postdoctoral fellow at Bilkent university from October 2020 to February 2022, under the supervision of prof. Nail Akar. My main interest was age of information (AoI) in communication networks. Initially, I studied AoI in cooperative

wireless networks out of which a paper is published in the Wireless Networks journal and another one is submitted to IEEE Transactions on Mobile Computing. Going on my research, I focused on AoI in caching systems and succeeded to prepare two notable papers, one of them is submitted to IEEE Transactions on Communications.

Visiting Researcher

Electrical and Electronics Engineering Department, Bilkent University, Ankara, Turkey

I visited Bilkent University from September 2013 to February 2014. During my stay there, I performed research under the supervision of professor Nail Akar on the analysis of fragmented links. This research topic finds application in flexgrid optical networks and also in cognitive wireless networks in which fragmentation is known to have an adverse effect. Out of that work, a journal paper was published in the International Journal of Computer and Telecommunications Networking (comnet) in September 2015.

Research Assistant

- *Information Systems And Security Laboratory (ISSL), Sharif University of Technology, Tehran, Iran*
Spring 2008 - Fall 2019
- *Wireless Research Laboratory (WRL), Sharif University of Technology, Tehran, Iran*
Spring 2008 - Fall 2019
- *Iran Tele-Communication Research Center (ITRC), Tehran, Iran*
November 2008

EVENTS

Workshops

- K. Vaezi, “**5G Trends: from Standardization to the Market,**” *2023 Iran Workshop on Communication and Information Theory (IWCIT)*, Sharif University of Technology, Tehran, Iran, 2023.

PUBLICATIONS

Journal Papers

- Kaveh Vaezi, Nail Akar and Ezhan Karasan, “**Scheduling Policies for Minimizing Version-Age in Caching Systems,**” in preparation.
- Kaveh Vaezi, Nail Akar and Ezhan Karasan, “**Modeling Age of Information in a Cooperative Slotted Aloha Network,**” submitted to *IEEE Transactions on Mobile Computing*, TechRxiv. Preprint.
<https://doi.org/10.36227/techrxiv.16437330.v1>.
- Kaveh Vaezi and Farid Ashtiani “**Delay-Optimal Cooperation Policy in a Slotted Aloha Full-Duplex Wireless Network: Dynamic Approach,**” in preparation.
- Kaveh Vaezi, Nail Akar and Ezhan Karasan, “**Modeling Age of Information in a Cooperative Slotted Aloha Network,**” in *Wireless Networks*, vol. 29, no. 5, pp. 2405-2417, March 2023.

- Kaveh Vaezi and Farid Ashtiani “**Delay-Optimal Cooperation Policy in a Slotted Aloha Full-Duplex Wireless Network: Static Approach**,” in *IEEE Systems Journal*, vol. 14, no. 2, pp. 2257-2268, June 2020.
- Kaveh Vaezi and Nail Akar “**Analytical Performance Modeling of Elastic Optical Links with Aligned Spectrum Allocation**,” *Computer Networks (comnet): The International Journal of Computer and Telecommunications Networking*, vol. 88, Issue C, Sep. 2015, Pages 40-50.

Conference Papers

- K. Vaezi, F. Ashtiani, “**Delay-optimal static relaying policy in a slotted aloha wireless network**,” *2018 Iran Workshop on Communication and Information Theory (IWCIT)*, Tehran, 2018, pp. 1-6.
- K. Vaezi, F. Ashtiani, “**Throughput Analysis of Multihop Cellular Networks**,” *2nd Wireless Modern Communications Network (WMCN)*, Tehran, 2011, in Persian.
- K. Vaezi, S. Efazati, A. Abdollahi, “**Power System Restructuring in Iran**,” *8th Iranian Student Conference on Electrical Engineering*, Kerman, 2005, in Persian.

DISSERTATIONS

- **PhD Thesis**, “*Cooperative Wireless Networks from a MAC-Layer Point of View*”, under the supervision of Prof. F. Ashtiani, Oct. 2019.
- **M.Sc. Thesis**, “*Throughput Analysis of Multihop Cellular Networks*”, under the supervision of Prof. F. Ashtiani, Sep. 2009.
- **B.Sc. Thesis**, “*Pistachio Nuts Classification Considering Their Striking Sound*”, under the supervision of Prof. S. Talebi, Sep. 2007.

HONORS

- Ranked **1st** (in GPA, higher than the 2nd rank by more than 2 scores) amongst the electrical engineering undergraduate students, Summer 2007.
- Ranked **3rd** (in GPA) amongst the communications systems PhD Students, Fall 2019.
- Ranked **29th** amongst nearly 16,000 participants, 'Iranian Nation-Wide University Entrance Exam for M.Sc. program in Electrical Engineering', Summer 2007.
- Ranked **5th** amongst nearly 16,000 participants, 'Iranian Nation-Wide University Entrance Exam for M.Sc. program in Instrumentation Engineering', Summer 2007.

TEACHING EXPERIENCE

Academic Teaching

- Shahid Bahonar University of Kerman (SBUK), Kerman, Kerman, Iran
Spring 2016 - Spring 2021
- Be'sat Institute of Higher Education, Kerman, Kerman, Iran
Fall 2017
- Mahan Institute of Higher Education, Tehran, Iran
Fall 2012
- Ghiaseddin Jamshid Kashani Institute of Higher Education, Abyek, Ghazvin, Iran
Fall 2014
- Abrar Institute of Higher Education, Tehran, Iran
Fall 2012
- Shahab Danesh Institute of Higher Education, Ghom, Iran
Fall/Spring 2011

WORK EXPERIENCE

Employed Experiences

- Faraz Information and Communication Technologies and Services, Tehran, Iran
June 2022 - December 2024
 - **Technical Manager and Researcher**
Research and development of the 5G networks, LTE PCN and 5G NPN.
- Information Technology and Secure Communication Company of Mohaymen, Tehran, Iran
April 2010 - December 2011
 - **Researcher**
Research on under-water sensor networks specific to Persian-Gulf waters.
Research on under-ground sensor networks for footprint detection.

SKILLS

Language Skills

- Persian (*Native*)
- English (*Fluent*)
- Familiar with Arabic

Computer Skills

- MATLAB programming & simulink
- Wolfram Mathematica programming
- Microsoft Office
- L^AT_EX
- WordPress