Hossein Khayami

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Education

University of Maryland, College Park, MD, USA — Sep. 2021 - Present
PhD Student at Department of Electrical and Computer Engineering - Communication and Signal Processing
- **GPA (up to now): 3.48/4.0**

Sharif University of Technology, Tehran, Iran — Sep. 2013 - Sep. 2015
Master of Science in Electrical Engineering - Communication Systems
- **Average: 17.59/20 (4.0/4.0)**

University of Tehran, Tehran, Iran — Sep. 2008 - Feb. 2013
Bachelor of Science in Electrical Engineering - Telecommunications
- **Average: 16.64/20 (3.5/4.0)**

Research Interest

- Cloud Computing; Coded Computation and Federated Learning
- Data Science and Machine Learning
- Embedded Systems; IoT and health monitoring devices
- Channel Coding and Communications

Publications

M. Shirvanimoghaddam, **H. Khayami**, Y. Li, B. Vucetic, "Dynamic HARQ with Guaranteed Delay," *2020 IEEE Wireless Communications and Networking Conference (WCNC)*, Seoul, Korea, May 2020.

H. Khayami, M. Ghassemi, K. Ardekani, B. Maham, W. Saad, "Cognitive Radio Ad Hoc Networks for Smart Grid Communications: A Disaster Management Approach," *2013 IEEE/CIC International Conference on Communications in China (ICCC)*, pp.716-721, Aug. 2013.

H. Morsali, S. M. Shekarabi, K. Ardekani, **H. Khayami**, A. Fereidunian, M. Ghassemian, H. Lesani, "Smart Plugs for Building Energy Management Systems," *2nd Iranian Conference on Smart Grids (ICSG 2012)*, May 24-25, Tehran, Iran.

Work Experiences

Cntxts Inc. *RTLS IoT Network Engineer* — May 2022 - Aug 2022
California, USA

> I designed and developed a wireless IoT network for a cloud-based indoor Real-Time Locating System during a summer internship at Cntxts Inc that supports both positioning-on-device and positioning-on-server for campus navigation and asset tracking applications.

MTN Irancell. *Data Analyst, Network Performance Engineer* — March 2020 - July 2021
Tehran, Iran

> As a network performance engineer, I performed data analyses on core PS key quality and performance indicators. I automated some routine KQI/KPI report generations and abnormally detection procedures.

Arshon Technology. *Senior Hardware Engineer* — Dec. 2020 - July 2021
Ontario, Canada (Remote)

> I designed and developed the hardware and firmware of an industrial IoT gateway at Arshon Technology.

Sarveen Technologies Inc. *Head of Embedded Systems Team* — Sep. 2016 - Feb. 2020
Science and Technology Park, Tehran, Iran

> As the head of embedded systems team, I led the development of multiple AI-enabled devices in Sarveen livestock health monitoring solution including electronic milkmeter, ultra low-power activity recognition and tracking animal wearable, IoT gateway, walk-over weigh scale, and livestock exhale analyzer.

Research Experience

Center for Wireless Multimedia Communications (WMC) *Research Assistant* Aug. 2016
University of Tehran, Tehran, Iran - Mar. 2017

Under the supervision of Dr. Lahouti, I conducted research on low-power IoT networks, which later incorporated into a business IoT platform in (*SarveenTech*).

Teaching Experiences

University of Maryland *Teacher Assistant* 2021-2022

Signal and System Theory, Cryptography, Digital Circuits and Systems Laboratory

Sharif University of Technology *Teacher Assistant* 2015

Data Communication Networks

University of Tehran *Teacher Assistant* 2011-2013

Multimedia Communications lab, Signal and Systems, Microprocessors

Exceptional Talent High Schools *Teacher* 2008-2015

Principles of Computer Programming, Robotics and Embedded Programming, Life and Social Skills (Pouyesh)

Professional Services

Reviewer 2019
IEEE Wireless Africa Conference, *The IEEE Vehicular Technology Society*
Physical Communication Journal, *Elsevier*

Referee Committee 2017
Internet of Things Challenge, *Iranian University of Science and Technology*

Technical Committee
Kharazmi Innovation Festival of Youths for Electronics projects 2017
RoboCup IranOpen International Competitions in Junior Leagues 2007-2015

Technical Skills

- Experience in Data Analysis using Pandas, SQL, and scikit-learn
- Familiar with Agile and Kanban project management methods.
- Familiar with version control using Git.
- Proven ability to develop low power IoT devices using BLE, WiFi, and other wireless protocols.

Software Skills

Programming Languages:
Python, Matlab, C/C++, Assembly

Professional Software and Toolboxes:
MATLAB and Simulink
Data Analysis (SQL, Pandas, Numpy, scikit-learn)
Network Simulators (NS2, NS3, OPNET)
Embedded programming IDEs (Code Composer Studio, Keil, Arduino, Code Vision AVR)
Circuit design and simulations (Altium Designer, Proteus, PSPICE)

Workshops and Short Courses

Data Mining using Python 2021
MTN-Irancell, Tehran

CS/PS/SIP & LTE Signaling 2020
MTN-Irancell, Tehran

BlockChain Summer School 2018
InnovationHouse, Tehran

Mathematical Aspects of Computer Science 2016
Shahid Beheshti University

Code-Based Cryptography 2015
Passed online, Inria

Theoretical Computer Science Summer School 2012
IPM Institute For Research In Fundamental Sciences