Parham Kazemi

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Education

Bachelor of Science in Electrical Engineering-Communications **Sep. 2017 – Present**
University of Tehran *Tehran, Iran*

- Expected Graduation Date: February 2022
- Last two years' GPA: 18.45/20 (4/4)
- Total GPA: 17.4/20 (3.74/4)

Diploma in Mathematics and Physics **Sep. 2013 – Aug. 2017**
Allame Helli High School *Tehran, Iran*

- Affiliated with the National Organization for the Development of Exceptional Talents (NODET)
- GPA: 19.79/20 (4/4)

Research Interests

- Signal Processing(mostly in biomedical applications)
- Blind Source Separation
- Optimization
- Coding and Information Theory
- Wireless Communications

Publications

- Akhavan, S., Baghestani, F., Kazemi,P., Karami,A., Soltanian-zadeh, H. (2021). **Dictionary Learning for Sparse Representation of Signals With Hidden Markov Model Dependency**. Manuscript submitted for publication.

Teaching Assistant Experiences

Discrete-Time Signal Processing(DSP) **Fall 2021**
- Instructor: Dr. Majid Badieirostami

Electrical Circuits I **Fall 2021**
- Instructor: Prof. Jalil Rashed-Mohassel

Signals and Systems **Spring 2021**
- Instructor: Dr. Saeed Akhavan Behabadi

Introduction to Communications Systems **Spring 2021**
- Instructor: Dr. Sadaf Salehkalaibar

Linear Control Systems **Fall 2020**
- Instructor: Dr. Shahin Jafarabadi Ashtiani

Electronics II **Fall 2020**
- Instructor:Dr. Fariba Bahrami

Electronics I **Spring 2020**
- Instructor: Dr. Zeinab Sanaee

Physics II **Spring 2020**
- Instructor: Dr. Zahra Shaterzadeh Yazdi

Introduction to Electrical Engineering **Fall 2019**
- Instructor: Prof. Mahmoud Shahabadi and Dr. Mohammad Hamed Samimi

Electrical Circuits Lab **Spring 2019**
- Instructor: Dr. Hossein Iman-Eini

Selected Courses(Graduate courses are indicated by †)

- Discrete-Time Signal Processing(19.83/20)
- Blind Source Separation† (18/20)
- Wireless Communications(16.7/20)
- Introduction to Communications Systems(16.7/20)
- Digital Communications Systems(16.5/20)
- Linear Control Systems(19.15/20)
- Electromagnetic Fields and Waves(17.1/20)
- Microwave Engineering I(18.7/20)
- Antenna I(19.25/20)
- Communications Circuits(17/20)

Workshops

EEG Signal Recording and Signal Processing **August 2021**
National Brain Mapping Lab(NBML) *Tehran, Iran*

- 24-hour online workshop on recording and processing EEG signals

Selected Course Projects

Blind Source Separation | *MATLAB* **Spring 2021**

- Implemented different ICA algorithms(such as FastICA) on a dataset estimate separated sources.
- Implemented single/multi-channel blind source deconvolution.
- Implemented dictionary learning algorithms(MOD and K-SVD) for sparse representation of signals.
- Implemented an LDA classifier for an EEG dataset based on the CSP approach.
- Implemented CCA approach in the detection of Stimulation frequency of SSVEP-based BCI.
- Implemented MUSIC and Beamforming approach on a vertical uniform array.

Discrete-Time Signal Processing(DSP) | *MATLAB* **Fall 2020**

- Estimated pulse rate by processing an ECG dataset.
- Implemented Audio Processing in Cepstrum domain and Image Compression using DCT.
- Designed FIR filter to remove noise from the speech signal and Implemented filters on images using kernel matrix.

Digital Communications Systems Lab | *MATLAB* **Fall 2020**

- Designed and Simulated digital modulation schemes such as PAM, QAM, PSK, and FSK with various detailed considerations.

Wireless Communications | *MATLAB* **Spring 2021**

- Implemented receiver and transmitter blocks of an OFDM system and simulated bit error rate for AWGN and Rayleigh channels.

Analog Communicatiosn Systems | *MATLAB* **Fall 2019**

- Designed and simulated modulator and demodulator of Conventional AM, DSB-AM, and SSB.

Communicatiosn Circuits | *ADS* **Fall 2020**

- Designed and simulated an LNA using Source Inductive Degenerated structure.

Microwave Engineering I | *HFSS* **Fall 2020**

- Designed and simulated Multi-hole and Moreno couplers.
- A review report and simulation of Faraday phase shifter.

Linear Control Systems | *MATLAB, Simulink* **Fall 2019**

- Designed a controller for a ball and beam system.

Technical Skills

Languages: Python, C, C++, Verilog HDL
Simulation Software: MATLAB(highly skilled) and Simulink, ADS, Ansys HFSS, AutoCAD, NI Multisim

Languages

- English: Fluent (TOEFL will be taken on November 20^{th})
- Farsi: Native

Honors and Awards

- Ranked 291^{th}(top 0.2 %) among almost 138,000 participants in the Nationwide Iranian University Entrance Exam in the field of Mathematics and Physics, June 2017
- Received scholarship from the Supporter Foundation of University of Tehran as an exceptional talent, 2017-2018 and 2020-2021
- Member of the National Organization for Development of Exceptional Talents (NODET), Sep. 2010 - Aug. 2017

References

Dr. Saeed Akhavan Behabadi
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Dr. Fariba Bahrami BoodeLalou
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