PARHAM KAZEMI

School of Electrical and Computer Engineering, University of Tehran, North Kargar st., Tehran, Iran

📞 +98 (919) 600-1911　✉ parhamkazemi.edu@gmail.com　in **LinkedIn**　🌐 **Personal Website**

EDUCATION

Bachelor of Science in Electrical Engineering (Communications)　　　　Sep. 2017 – Present
University of Tehran[1]　　　　　　　　　　　　　　　　　　　　　　　　　　*Tehran, Iran*

- Expected Graduation Date: February 2022
- Last two years' GPA: 18.45/20 (4/4) – Total GPA: 17.4/20 (3.74/4) [2]
- Thesis: "**Extracting Singer Vocal From Music Using Blind Source Separation**" (Ongoing)
- Supervisor: Dr. Saeed Akhavan Behabadi

Diploma in Mathematics and Physics　　　　　　　　　　　　　　Sep. 2013 – Aug. 2017
Allameh 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

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

PUBLICATIONS

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

EXPERIENCES

Research Assistant　　　　　　　　　　　　　　　　　　　　　　　Apr. 2021 – Present
University of Tehran

- Devised a new approach to improve the performance of dictionary learning algorithms when there is hidden Markov model (HMM) dependency among the training signals; Resulted to a paper mentioned in publications.

Teaching Assistant　　　　　　　　　　　　　　　　　　　　　　　Sep 2019 – Present
University of Tehran

- **Discrete-Time Signal Processing**　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**
  Instructor: Dr. Sadaf Salehkalaibar　Spring 2021
- **Linear Control Systems**　Fall 2020
  Instructor: Dr. Fariba Bahrami
- **Electronics II**　Fall 2020
  Instructor: Dr. Shahin Jafarabadi Ashtianii
- **Electronics I**　Spring 2020
  Instructor: Dr. Zeinab Sanaee
- **Physics II**　Spring 2020
  Instructor: Dr. Zahra Shaterzadeh Yazdi
- **Introduction to Electrical Engineering**
  Instructor: Prof. Mahmoud Shahabadi　Fall 2019
- **Electrical Circuits Lab**　Spring 2019
  Instructor: Dr. Hossein Iman-Eini

WORKSHOPS

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

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

---

[1] Ranked 151-200 in electrical engineering according to QS World University Ranking in 2021.
[2] University and department average GPA are 15.58 and 15.1 respectively.

SELECTED COURSES[3]

• Discrete-Time Signal Processing	19.83/20	• Antenna I	19.25/20
• Blind Source Separation (Graduate)	18/20	• Microwave I	18.7/20
• Wireless Communications	16.7/20	• Electromagnetic Fields and Waves	17.1/20
• Digital Communications Systems	16.5/20	• Communication Circuits	17/20
• Linear Control Systems	19.15/20	• Filter and Circuit Synthesis	20/20

SELECTED COURSE PROJECTS

Blind Source Separation | *MATLAB*   **Spring 2021**
- Retrieved source signals from a set of noisy observations using different ICA algorithms(minimizing Kullback–Leibler divergence based on estimating score function, deflation approach, and equivariant algorithm and maximizing kurtosis function based on deflation approach, fixed-point approach, and FastICA).
- Implemented single-channel and multi-channel blind source deconvolution in both time domain and frequency domain.
- Implemented dictionary learning algorithms(MOD and K-SVD) for sparse representation of signals.
- Generated an LDA classifier for an EEG dataset based on the Common Spatial Pattern(CSP) approach.
- Performed CCA approach in stimulation frequency detection of SSVEP-based BCI.

Digital Signal Processing(DSP) | *MATLAB*   **Fall 2020**
- Estimated pulse rate by processing ECG dataset.
- Implemented audio processing in Cepstrum domain and Image Compression using DCT; Created filters for image processing using kernel matrix.

Digital Communications Systems Lab | *MATLAB*   **Fall 2020**
- Simulated digital modulation techniques such as PAM, QAM, PSK, DBPSK, and FSK(coherent and non-coherent detection) with various detailed considerations (Implemented Gray coding, pulse shaping, symbol to bit converting and vice versa, channel phase offset and delay effect; Designed correlator, matched filter, and minimum-distance detector; Calculated bit error rate).

Wireless Communications | *MATLAB*   **Spring 2021**
- Imitated receiver and transmitter blocks of an OFDM system and calculated bit error rate for AWGN and Rayleigh channels with and without equalizer.

TECHNICAL SKILLS

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

LANGUAGES

- English: Fluent (TOEFL will be taken on Nov. 28th)
- Farsi: Native

HONORS AND AWARDS

- Ranked among top 15% out of 130 undergraduate students, School of Electrical and Computer Engineering, University of Tehran
- Received scholarship from the Supporter Foundation of University of Tehran as an exceptional talent, 2017-2018 and 2020-2021
- Ranked 291^{th}(top 0.2 %) among almost 138,000 participants in the Nationwide Iranian University Entrance Exam in Mathematics and Physics, June 2017
- Member of the National Organization for Development of Exceptional Talents (NODET), Sep. 2010 - Aug. 2017

REFERENCES

Available upon request.

---

[3]All grades above are equivalent to A or A^+.