Hamed Khatoonabadi

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EDUCATION

Ph.D. in Electrical and Computer Engineering — **August 2022 – August 2027(Expected)**
- ***Michigan State University, East Lansing, USA***
  Overall GPA: 4/4 via 6 credits

Bachelor's Degree in Electrical Engineering — **September 2017 – February 2022**
- ***Sharif University of Technology, Tehran, Iran***
  Overall GPA: 17.24/20 via 144 credits

Diploma in Mathematics and Physics — **October 2013 - July 2017**
- ***Emam Mohammad Bagher High School, Esfahan, Iran***
  Ranked 2 among 120 students, Overall GPA: 19.47/20

RESEARCH INTERESTS

- **Computer Vision**
- **3D Object Detection**
- **Applied Deep Learning**
- **Multi-Modal Object Detection**
- **Deep Learning**
- **Autonomous Vehicles**

BACHELOR THESIS

Title: Design and Implementation of Respiration Sensor — **Feb 2020 - July 2021**
Supervisor: Prof. Mohammad Fakharzadeh
Description: I designed a wearable sensor to monitor the respiratory signal. This signal was sent to PC with BLE, which is integrated into nRF microcontroller. Under artificial stress and tension, a dataset of some people was prepared to train machine learning algorithms. Helpful features of the signal were extracted to detect relaxation and stress phases for each person

SELECTED ACADEMIC PROJECTS

Classification btw brain activities in EEG signal via NN & RBF[Python] — **Sep 2021 - Jan 2022**
Supervisor: Prof. Sepideh Hajipour - Course Project for AI and Biological Computation

Find The Highest Score for String Matching via Aho-Corasick[DEV-C++] — **Feb 2021 - Jul 2021**
Supervisor: Prof. Saber Salehkaleybar - Course Project for Data structure and Algorithm
- ***This project has also been a problem of code cup five from Quera***

Reduction of Blinking and Eye Movement Artifacts in EEG[MATLAB] — **Sep 2020 - Jan 2021**
Supervisor: Prof. Ali Ghazizadeh - Course Project for Principles of Medical Engineering

Signal Generator Design with LPC2138 Microcontroller[Keil, Proteus] — **Sep 2020 - Jan 2021**
Supervisor: Prof. Khosrow Hajsadeghi - Course Project for Microprocessor Systems

Simulation of Ring Resonator with a Coupling Length Sweep[Comsol] — **Sep 2020 - Jan 2021**
Supervisor: Prof. Zahra Kavehvash - Course Project for Optical Electronics (Graduate Course)

Machine Learning Problem "Probabilistic Classification"[MATLAB] — **Feb 2019 – Jul 2019**
Supervisor: Prof. Mahtab MirMohseni - Course Project for Probability and Statistics

INTERNSHIP

Title: Designing Fast Twelve ADC Channels [Arduino] — **July 2020 - Sep 2020**
Supervisor: Prof. Mohammad Heidarieh
Location: R&D, Snowa, Esfahan, Iran

TEACHING EXPERIENCES

Homework Solver of "Digital and Pulse Circuits" Course — **Feb 2021 – Jul 2021**
Supervised by Prof. Saeed Bagheri Shouraki

Laboratory Teaching Assistant of "Principles of Electronics" Course — **Feb 2020 – Jan 2021**
Supervised by Prof. Zahra Kavehvash

Homework Grader of "Principles of Electronics" Course — **Feb 2020 – Jul 2020**
Supervised by Prof. Mohammad Fakharzadeh

Homework Designer of "Numerical Computation" Course — **Sep 2019 - Jan 2020**
Supervised by Prof. Iman Gholampour

Homework Grader of "Analog Circuits" Course — **Feb 2019 – Jul 2019**
Supervised by Prof. Hamid Movahedian Attar

HONORS AND AWARDS

- For about 14 months, I have worked with the Boisen Group, which focuses on developing devices for health care and is among the Sharif Technology Service Complex companies.
- Received the best BSc. thesis award from IEEE Iran section December 2022.

SELECTED COURSES

At Sharif University of Technology:

• Python Programming Lab	20/20
• Digital Signal Processing Lab	20/20
• Design Algorithms and Data Structures	18.1/20
• Artificial Intelligence	17.8/20

At Michigan State University:

• Advanced Signal Processing	4/4
• Analysis of stochastic systems	4/4
• Pattern Recognition	4/4
• Detection and Estimation theory	4/4

TECHNICAL SKILLS

Engineering Software	ADS, Pspice, Keil, Altium Designer, Proteus, Comsol, MATLAB (GUI and Simulink), Arduino IDE, Dev-C++ Jupyter Notebook
Programming Languages	C, C++, Python, Assembly
Microprocessor Systems	Arduino, ARM, AVR, nRF
General Skills	LaTeX, Microsoft Windows, Linux, Microsoft Office

LANGUAGES

English	TOEFL:100/120(Reading:29/30, Listening:23/30, Speaking:24/30, Writing:24/30)
Persian	Native

HOBBIES

Watching series, science fiction films, documentaries, and reading novel books

Playing Ping-Pong, playing Football/Soccer(player of a dormitory Futsal team)