Tandis Bahramrad

Contact information

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Interests

- Medical Engineering
- Robotics
- Machine learning
- Artificial Intelligence
- Neuroscience
- Signal processing

Skills

- Signal processing
- STM32 ARM MCU
- AVR MCU
- FPGA Spartan
- C Programming
- PCB Designing
- Analog & Digital Circuit Designing

Languages

- **Persian**: native
- **English**:
  FCE *Certification from Cambridge University*
  PET *Certification from Cambridge University*
  IELTS *(EXPECTION: SEPTEMBER 2021)*

EDUCATION

K.N. Toosi University — Master of Science Digital Electronics Engineering

2019 – Expectation:2021

GPA: 18.2/20

(2nd Top Student)

Thesis: Proposing an Appraoch for Automatic Detection of Atrial Arrhythmia Using Deep Learning Neural Networks

K.N. Toosi University — Bachelor of Science Electronic Engineering

2015- 2019

GPA: 17.67/20

Thesis: Design and Implementation of Artificial Intelligence (Q-Learning) on Hardware on "Paper Soccer Game"

EXPERIENCE

Research & Development — ACSIDMAAD | UNIWAY OPTRONIX

2019 – Present

Electronic Designing and Programming on Medical Devices (Ventilator, CPAP)

Research Assistant — FPGA LAB

2018 – Present

Researching ECG Signal Processing, Automatic Detection of Arrhythmia Using Machine Learning and Implementation of Q-Learning Methods on FPGA

Electronic Engineer — Raiwan

2018 – 2019

Design and implementation of electronic projects. Designing PCBs, Programming microcontrollers

Control & Instruments Engineering — Sazeh (Engineering and Construction)

2017

Apprenticeship in Control and Instruments section

NOTABLE PROJECTS

- ✓ **Automatic Arrhythmia Detection System on Cardiac Signal**

  Signal Processing, Noise filter, Feature Extraction, Deep Learning Methods

- ✓ **Ventilator**

  BLDC Motor Driver, STM32 Micro-controller, Fuzzy & PID controller, NEXTION LCD, Pressure and Flow sensor

- ✓ **CPAP**

  BLDC Motor Driver, STM32 Micro-controller, Fuzzy & PID controller, TFT LCD, Pressure sensor, Apnea Detection and Log on SD Card

- ✓ **TENS Device**

  Variable High Voltage Spike Production, Stm32 ARM Micro-Controller

Software

- MATLAB
- Altium Designer
- PSPICE
- STM32Cube IDE
- ISE
- Qt Designer
- VScode
- Arduino
- LaTex

Programming Languages

- C/Cpp
- Python
- VHDL
- Assembly
- Android

Embedded Systems

- Raspberry pi
- ESP 32

Libraries

- TensorFlow
- NumPy
- FreeRTOS

Hobbies

- Movies
- Bodybuilding
- Swimming
- Reading Book

✓ **Implementation of Q-Learning on "Paper Soccer Game"**
Qlearning (Reinforcement Learning), Python, Spartan 6 FPGA

Courses

✓ **Implantable Microsystems |** *GPA: 18.5/20 (A+)*

✓ **Machine Learning |** *GPA: 17.3/20 (A)*

✓ **Digital Signal Processing |** *GPA: 15.75/20 (B)*

VOLUNTEER

CodeLife Ventilator Challenge	Agorize |2020
Executive Committee member	25th the Iranian Conference on Electrical Engineering (ICEE) | 2017
Executive Committee member	16th IEEE Iran Section Student Branch Symposium | 2017
Student Paper Contest Mentor	IEEE | 2018-2019
Executive Committee member	IEEE Article Writing Workshop | 2017
Executive Committee member	IEEE MATLAB Workshop

ACHIEVEMENTS

MATLAB Certification	Tehran Institute of Technology |2015
Electronic in Robotics Workshop	RSI (held by KN2C LAB) | 2016
LaTex Workshop	IEEE | 2021

References

Amirhossein Nikoofard

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Toosi University of Technology

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Hossein Hosseini-Nejad

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