

# Saba Ebrahimi

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## EDUCATION

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2019 - present    BS - Computer Engineering at **Shahid Beheshti University**    (GPA: 3.93/4.0)  
Ranked among top 5 of students

2016 - 2019    Diploma - Mathematics and physics at **Farzanegan1 High school**    (GPA: 19.55/20.0)

## RESEARCH INTERESTS

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Embedded Sytems	IoT	Operating Systems
Real-time Systems	Wireless Networks	Autonomous Vehicles

## RESEARCH

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**Research Assistant — RADIANT IOT lab of Sharif University — Iran**    Nov 2022 - present

- Led research initiatives at the RADIANT IOT Lab, focusing on optimizing parent selection algorithms for the RPL protocol.
- Developed proficiency in crafting IOT devices using the Contiki OS, employing the C language.
- Explored IOT communication protocols, localization algorithms and contributing to a comprehensive understanding of cutting-edge technologies.

**Research Assistant — Shahid Beheshti University — [GitHub](#)**    Aug 2024 - present

- Led research focusing on developing a **Self-Adjusting Thermostat** that determines user's thermal comfort range.
- Developing an on-device reinforcement learning algorithm based on occupant's schedule.
- Adding the edge device to connect multiple thermostats and learn based on online information.

**Embedded Developer — Robotics team of Farzanegan1 Highschool — Iran**    Aug 2017 - May 2018

- Spearheaded the development of comprehensive code for soccer player robots, encompassing communication with sensors, robot functionality, and control algorithms.
- Proficiently utilized the Arduino platform, specifically Arduino Duo and Nano, to implement and optimize the code for enhanced robotic performance.

## AWARDS AND CERTIFICATES

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**Deep Learning Specialization — Coursera**    Oct 2022  
([certificate](#))

**Second place of Junior Open-Weight Soccer league — IranOpen Robotics Competition**    Apr 2018

**Certificate of participation Junior Open-Weight Soccer league — Robocup Asia-Pacific**    Dec 2017

## PROJECTS

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### Controller for Maxon EPOS Driver

[GitHub](#)

Working with Raspberry Pi 3B, launched Linux-based desktop application with PyQt, made connection between Raspberry Pi and Maxon EPOS driver.

### Desktop Application for Smart Firefighter suit.

[GitHub](#)

This project was an application developed with Electron JS, that receives firefighter's vital signs from a smart suit. Data is transferred in Bluetooth and serial protocol.

### DTMF Signals Decoder

[GitHub](#)

Designing DTMF Signal Decoder with STM32F401RE, using HAL library

## TEACHING EXPERIENCE

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### Operating Systems Head Teacher Assistant — Shahid Beheshti University

Sep 2022 - present

### Embedded Systems Teacher Assistant — Shahid Beheshti University

Sep 2023 - present

### Advanced Programming Head Teacher Assistant — Shahid Beheshti University

Aug 2021 - July 2022

- Published homework assignments, quizzes, and projects for students, emphasizing proficiency in Java.
- Conducted supplementary lectures and tutorials, providing in-depth instruction related to the course.

### Internship Mentor — [CodeStar Internship](#)

June 2022 - Sep 2022

Conducted interviews with interns, reviewed and evaluated pull requests, provided comprehensive answers to interns' questions and facilitated connections between interns and managers.

### Computer Science Research Technical Instructor — Farzanegan1 High school

Oct 2021 - Mar 2022

- Instructed high school students in the fundamentals of web development.
- Managed student projects, providing guidance and support throughout the development process to ensure successful project completion.

## SKILLS

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C, C++

Python

Linux

Worked with Raspberry Pi

JavaScript

Git, Jira

Java

STM32 Microcontrollers

Socket Programming

Verilog, VHDL

Web Development(Node JS, Angular)

Contiki OS Kernel development