

# Saba Ebrahimi

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## EDUCATION

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2019 - 2024 BS - Computer Engineering at **Shahid Beheshti University** (GPA: 18.31/20.0)

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

## EXPERIENCE

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**Embedded Developer — Software Motion Engineering Services — China** July 2023 - May 2024

- Worked as embedded developer for a company specializing in ADAS solutions for mass production
- Gained expertise in AUTOSAR architecture, focusing on OS, Flash, and RTE modules.
- Worked with Vector tools (DaVinci Developer and Configurator).
- Tested, debugged, and deployed code on AURIX Tricore boards, ensuring efficient task management and inter-core communication.
- Configured AUTOSAR OS and integrated application layer functions with BSW using RTE for seamless multi-core operation.

**Full Stack Developer — Mohaymen ICT — Iran** Apr 2021 - Feb 2023

- Developed user interfaces using React with TypeScript in a financial project.
- Contributed to back-end development with Java Spring Boot, Kafka, and Docker.
- Built front-end features using Angular, graph and chart libraries for a data analysis project.
- Served as a mentor for new interns in the Code Star internship program.

**Computer Science Research Technical Instructor — Farzanegan1 High School — Iran**

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.

**Teacher Assistant — Shahid Beheshti University — Iran** Aug 2021 - Dec 2023

- Head teacher assistant of Advanced Programming and Operating Systems
- Teacher assistant of Embedded and Real-time systems

**Software Engineering Intern — CodeStar Internship** July 2020 - Sept 2020

- Developed Simple Data Analysis Application in teams using Ogma, Angular and .NET
- Learned SOLID and other Software engineering fundamentals

## SKILLS

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C, C++

Python

AUTOSAR

Worked with Raspberry Pi

JavaScript

Git, Jira

Java

STM32 Microcontrollers

Socket Programming

IoT fundamentals

Web Development(Node JS, Angular)

Linux

## PROJECTS AND ACTIVITIES

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### Self Adjusting Thermostat — [GitHub](#)

Aug 2023 - Mar 2024

The Self-Adjusting Thermostat is a smart home IoT project designed to learn and adapt to a user's comfort range based on their schedule and preferences. It uses on-device reinforcement learning and communicates with a Thingsboard server via the MQTT protocol. A gateway was used to enable communication with legacy thermostats, allowing these older devices to operate using the CAN protocol. Users can interact with the thermostat either through a mobile app or directly using the LCD screen and buttons on the device.

### Parent Selection Optimizer for RPL Protocol

Nov 2022 - Dec 2023

RPL is a routing communication protocol designed for low-power and lossy networks. Using Contiki OS, an operating system for IoT devices, we enhanced the parent selection method to optimize performance for low-power devices.

### 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

## 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