



# Ali Zahedi

## Embedded System Developer



### Profile

With a background in the development of embedded systems, my experience over the past 6 years spans the Internet of Things (IoT) and Biomedical Engineering. Throughout these years, I've had the privilege of collaborating with various companies, both full-time and as a freelancer. Additionally, I have successfully contributed to the development of products for different companies in the fields of IoT and Biomedical Engineering.



### Work experience

#### Embedded System Developer

*Freelance (Part-Time), Kashan, Isfahan, Iran*

- Various projects in the field of IOT and Biomedical etc.

#### Smart Apex (Full-Time), Kashan, Isfahan, Iran

- Firmware update project for installed products.
- DALI module project for lighting control.
- IR remote module project for air conditioner.

#### Robotic Teacher

*FIRA academy(Part-Time), Tehran, Iran*

- Teaching assemble simple robots.
- Teaching STM32 Micro Controllers Programming.
- Teaching work with Arduino Boards.

#### Producer of educational content

*Digispark.ir(Part-Time), Iran*

- Production of educational content.



### Education

#### Islamic Azad University Science and Research Branch

Digital Electronic Systems (Masters' degree) *Tehran, Iran*

#### Shamsipour Technical College

Electronic Engineering (Bachelor's degree) *Tehran, Iran*

#### Shahid Rajaee Technical and Engineering

Electronic Engineering (Associate's degree) *Kashan, Isfahan, Iran*



### Contact



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#### Github

Github.com/alixahedi



### Skills

C/C++ Advanced

Python Advanced

Git Intermediate

RTOS Intermediate

PCB Design Advanced

STM32 Expert

Arduino Expert

AVR Expert

ESP8266 Advanced

ESP32 Advanced

Raspberry pi Intermediate



### Languages

Persian Native

English Intermediate



# Top Projects and Achievements

2023

## Carboxy therapy device

*Freelance*

Product designed for skin repair.

The three parts of this product are pneumatic part, electronic circuit and user interface. In the design of this product, the comfort of the operator while using the device and high accuracy were the main priorities.

2023

## Plasma therapy device

*Freelance*

Product designed for skin repair.

The two main parts of this product were the electronic circuit and the user interface. The main challenge in this product was to control the noise generated by the plasma output.

2023

## Smart air conditioner remote control

*SMART Apex*

This product was used to control air conditioners by a smart system. Among the features of the product are;

- Send and receive IR codes
- Identifying the air conditioner brand
- Save the code of new air conditioner brands
- Communicating with Control4 smart home system
- Web application to communicate with the user

2022

## Aquarium status alarm

*Freelance*

The system designed to control the condition of aquariums for ornamental fish breeders, including the capabilities of this project;

- Alert notification via call and SMS
- Power failure warning
- Air pump failure warning
- Battery use during power outages
- Save the system log

2021

## OTA firmware update

*SMART Apex*

If there is a bug in products exported to other countries, it is very difficult to return and fix the bug. Therefore, it was decided to add a feature on the products so that if a bug is detected in the product, it is possible to update the firmware of the installed product without the need to move the product.

2021

## Smart wheelchair patents

*TeamWork*

An electric wheelchair with the ability to recognize and cross obstacles and follow the nurse, as well as controlling sound processing and displaying 360 degree imaging with a panoramic camera on the screen and the ability to charge with a variable solar cell with a beam radiation angle.