

# Saeed Bazargan

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Tehran, Iran

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## Work Experience

### TOSAN TECHNO | Electronic Payment and Digital Banking

Qazvin, Iran

RESEARCH DEVELOPMENT ELECTRONIC ENGINEER / ELECTRONICS ENGINEER

November 2023 - Present

- Reduced boot time **15%** and enhanced security using **Cortex-M** bootloader with **RSA-2048**.
- Increased data capture reliability **40%** by implementing a **FreeRTOS**-based datalogger with **UART** and **SD card**.
- Improved signal integrity in high-frequency circuits by applying **impedance matching**.

### Freelancer

Qazvin, Iran

IoT RESEARCHER

July 2022 - June 2023

- Created **Ethernet to RS-485** converter, reducing integration time **90%** for industrial systems.
- Minimized CPU load **30%** in multi-camera video capture using **C#.NET** and **OpenCV** with **multi-threading**.
- Enabled seamless IoT connectivity by integrating **Quectel EC200** 4G/2G modules, improving data transfer speed.

## Research Experience

### Mechatronic Research Laboratory (MRL)

Qazvin, Iran

ELECTRONIC RESEARCHER

August 2016 - April 2024

- Improved robot control by **45%** with **ESP32** and **Micro-ROS**.
- Cut actuator integration time **90%** by designing a **USB2Dynamixel** board supporting **TTL/RS-485**.
- Increased data throughput **25%** by optimizing **UART** communication with **FIFO** handling.
- Enhanced sensor accuracy **15%** by optimizing **IMU sensors** (BNO055, MPU9250) with **SPI** and **FreeRTOS**.
- Led electronics team, completing 3 projects on time and within budget.

### Zanjan Sama Robotic Group (ZSR)

Zanjan, Iran

ELECTRONIC RESEARCHER

November 2008 - February 2014

- Improved Mars-rover control by **20%** with **Atmega128** mainboard for DC motor control.
- Boosted object recognition accuracy **15%** with **C#.NET**-based detection for **Festo Robot**.
- Achieved **90%** autonomy in rescue robots with obstacle and line-following navigation.

## Skills

### Programming and Libraries

C programming, C#.NET, Python, OpenCV, Micro-ROS, LaTeX

### Software Development

System Design and Development, Debugging, Testing, Version Control, Programming Skills, Troubleshoot

### Software Tools

Altium Designer, Circuit Maker, Keil (ARM), STM32CubeIDE, CodeVision (AVR), FreeRTOS, CMake, Doxygen, Git

### Hardware and Protocols

ARM, AVR, ESP32, SPI, I2C, UART, RS485, RS232, GSM, Ethernet, GPS

### Languages

Persian (Native), English (Proficient)

### Soft Skills

Task Prioritization, Team Collaboration, Time Management, Problem Solving, Self-Learning

## Honors

### RoboCup | RoboCup Federation

ELECTRONIC RESEARCHER AND ROBOT-HANDLER

- 2nd Place, Humanoid Soccer Robot League | Bordeaux, France, July 2021
- 1st Place, Humanoid Soccer Robot League | Sydney, Australia, July 2019
- 2nd Place, Humanoid Soccer Robot League | Montreal, Canada, July 2018
- 1st Place, Humanoid Soccer Robot League | Bangkok, Thailand, October 2017

### IranOpen

ELECTRONIC RESEARCHER AND ROBOT-HANDLER

- First Place, Humanoid Soccer Robot League | Tehran, Iran, April 2023
- First Place, Humanoid Soccer Robot League | Kish, Iran, October 2018
- Second Place, Humanoid Soccer Robot League | Tehran, Iran, April 2017

## Education

### Qazvin I. Azad University (QIAU)

Qazvin, Iran

MASTER DEGREE IN ELECTRICAL ENGINEERING

January 2021 - April 2025

- Department Of Electrical, Computer, and Biomedical Engineering

## **Qazvin I. Azad University (QIAU)**

BACHELOR OF ENGINEERING IN ELECTRICAL ENGINEERING

- Department Of Electrical, Computer, and Biomedical Engineering

## **Zanjan I. Azad University**

ASSOCIATE DEGREE IN ELECTRICAL ENGINEERING

- Department Of Electrical and Computer Engineering

Qazvin, Iran

December 2016 - January 2021

Zanjan, Iran

January 2013 - May 2015

## **Publication**

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### **MRL Team Extended Abstract for Humanoid Kid Size League of RoboCup 2023**

Bordeaux, France

THE 26TH INTERNATIONAL ROBOCUP SYMPOSIUM.

July 2023

- Hamed Mahmudi, **Saeed Bazargan**, Arash Rahmani, Abolfazl Ashayeri, Fatemeh Rashnozadeh, Alireza Golchin, Ramtin Kosari, Sina Khoshzaban Khosroshahi, Mehdi Zeinali and Maryam Shaban

### **MRL Champion Team Paper in Humanoid TeenSize League of RoboCup 2019**

Sydney, Australia

SPRINGER

July 2019

- Meisam Teimouri, Hamed Mahmudi, Amir Gholami, Mohammad Hossein Delavaran, Soheil Khatibi, **Saeid Bazargan**, Milad Moradi, Bitaa Alaei, Arash Rahmani, Kazem Firouzmandi Bandpey, Peyman Fallahzadeh