Saeed Bazargan

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Birth: July 12, 1994

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Professional Summary

- Embedded Systems Engineer with a Master's in Digital Electronic Systems and 8+ years of experience in embedded firmware, Mid-frequency PCB design, and IoT. Skilled in ARM Cortex-M, AVR microcontrollers, and optimizing communication protocols, seeking remote opportunities to contribute to robotics and embedded technology projects. I specialize in robotics and have successfully designed embedded systems for mobile-robots and humanoid robots. Led a RoboCup championship-winning team, earning multiple international titles.

Research Experience

TOSAN TECHNO | Electronic payment and digital banking
Qazvin, Iran

RESEARCH DEVELOPMENT ELECTRONIC ENGINEER · *October 2023 - Present*

- Developed a custom **bootloader** for secure device startup using a **Cortex-M** microcontroller and SHA-256 encryption.
- Adept at **impedance matching** techniques to ensure optimal signal integrity and performance in high-frequency circuitry.

FreeLancer
Qazvin, Iran

IoT RESEARCHER · *July 2022 - June 2023*

- Gained expertise in Quectel EC200 modules, specializing in **4G and 2G** technologies.
- Programmed AVR microcontrollers for GSM circuits, utilizing **USART** for data communication and smart home relay control.
- Designed an **Ethernet to RS-485** protocol converter using the Wiznet W5500 chip
- Controlled a Kormas **DC motor** with a high-power relay.
- Developed a custom C.NET and **OpenCV** application for capturing video from multiple cameras simultaneously, utilizing **multi-threading** for efficient data processing.

Mechatronic Research Laboratory (MRL) - Humanoid Soccer Robot Team
Qazvin, Iran

ELECTRONIC RESEARCHER · *August 2016 - December 2023*

- Designed a USB2Dynamixel board for simultaneous **TTL and RS-485** communication with Dynamixel actuators.
- Implemented **UART-based** communication with Dynamixel actuators, using queue algorithms to manage 5 independent lanes.
- Configured BNO055 and MPU9250 IMU sensors with **SPI** on **FreeRTOS**, optimizing performance with STM32F405 microcontroller and **USB to UART** conversion.
- Led the electronics team in a robotics project, overseeing planning, **task management**, and system testing.

Zanjan Sama Robotic Group (ZSR)
Zanjan, Iran

ELECTRONIC RESEARCHER · *November 2008 - February 2014*

- Programmed and designed the mainboard for the Mars-rover robot, employing an **Atmega128** microcontroller. Effectively controlled high-power DC Motors for tasks including digging.
- Executed object detection and manipulation on an Omni-Directional **Festo Mobile robot** using C#.NET. Proficient in recognizing shapes and ensuring precise object placement.
- Designed and programmed rescue robot board, incorporating obstacle navigation capabilities in a follow-line robot framework.

Skills

Programming and Libraries	C Programming Language, C#.NET, LaTeX, OpenCV, Python Libraries, MATLAB
Software	Altium Designer, Circuit Maker, Keil(ARM), STM32CubeIDE, CodeVision(AVR), FreeRTOS, CMake, Doxygen, Git
Hardware	ARM, AVR, SPI, I2C, UART, RS485, RS232, GSM, ZigBee, GPS, WiFi
Languages	Persian (Mother Tongue), English (Foreign Language)
Soft Skills	Easily Get Into Teams, Time Management, Problem Solving, Self-learning.

Honors

RoboCup
RoboCup Federation

ELECTRONIC RESEARCHER AND ROBOT-HANDLER

- Second Place, Humanoid Soccer Robot League, Robocup Competition 2021 | Bordeaux, France, July 2021
- First Place, Humanoid Soccer Robot League, Robocup Competition 2019 | Sydney, Australia, July 2019
- Second Place, Humanoid Soccer Robot League, Robocup Competition 2018 | Montreal, Canada, July 2018
- First Place, Humanoid Soccer Robot League, RoboCup Asia-Pacific 2017 | Bangkok, Thailand, October 2017

IranOpen *IRNC*

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

Publication

MRL Team Extended Abstract for Humanoid Kid Size League of RoboCup 2023 *Bordeaux, France*

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- 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*

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

Education

Qazvin I. Azad University (QIAU) *Qazvin, Iran*

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- **Department Of Electrical, Computer, and Biomedical Engineering**
- CGPA: 14.30/20 (3.06/4.0)

Zanjan I. Azad University *Zanjan, Iran*

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- **Department Of Electrical and Computer Engineering**
- CGPA: 16.76/20 (3.55/4.0)