

Saeed Bazargan

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July 12, 1994

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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 the MH1902 microcontroller based on ARM Cortex-M3. To enhance security, the encryption key was dynamically incorporated into the data, and the encryption process utilized the robust **SHA-256** algorithm.
- Familiar with designing high-frequency **PCBs**, specializing in intricate layouts for complex 8 to 10-layer designs within the 1-3 GHz frequency range.
- 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

- Proficient in Advanced Encryption Standard (**AES-128**) and adept at its practical implementation for **secure data** handling.
- Acquainted with Quectel's EC200 modules, demonstrating expertise in both **4G and 2G** technologies.
- Programmed AVR microcontroller in C for **GSM** circuit, employing **USART** for data communication and smart home relay control.
- Recognize the floor of a roller where a product is located using a button method and **Ethernet** transmission.
- Design an **Ethernet to RS-485** protocol converter, which was done by Wiznet W5500.
- Drive a DC motor made by a Turkish company called Kormas using a high-power relay.
- Created a custom C#.NET and **OpenCV** application for simultaneous video capture from multiple cameras. Employed multi-threading for efficient data processing and smooth playback.

Mechatronic Research Laboratory (MRL) - Humanoid Soccer Robot Team

Qazvin, Iran

ELECTRONIC RESEARCHER

August 2016 - December 2023

- Design a modified version of the USB2Dynamixel (USB2DXL) board, which is the interface between the Dynamixel actuators and the controller. This board is designed to communicate with both **TTL and RS-485** Dynamixel series at the same time.
- Developed communication with Dynamixel actuators using the **UART** interface and queue algorithms in the humanoid robot's platform, effectively dividing communication into 5 independent lanes.
- Configured BNO055 and MPU9250 IMU sensors with an **SPI** interface on **FreeRTOS**. Optimized system performance and reliability using STM32F405 microcontroller and HAL, transferring data via **USB to UART** converter.
- Led the electronic section of a robotics team, directing project planning, task management, and new member recruitment. Conducted rigorous testing and debugging to ensure the reliability of electronic systems.

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, Python, C#.NET, LaTeX, UML, 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, CAN, 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

- First 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

ELECTRONIC RESEARCHER AND ROBOT-HANDLER

- 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

Publication

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

Education

Qazvin I. Azad University (QIAU)

Qazvin, Iran

BACHELOR OF ENGINEERING IN ELECTRICAL ENGINEERING

December 2016 - January 2021

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

Zanjan I. Azad University

Zanjan, Iran

ASSOCIATE DEGREE IN ELECTRICAL ENGINEERING

January 2013 - May 2015

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