

# Saeed Bazargan

Linkedin  
Updated April 19, 2025

## Experiences

- Embedded Systems Engineer**, TOSAN TECHNO, Qazvin, Iran (November 2023 - Present)
- Integrated real-time orientation classification on ESP32 using TFLite Micro and FreeRTOS.
  - Optimized neural network performance for AI-based sine wave generation on embedded hardware.
  - Implemented a Cortex-M bootloader with RSA-2048 encryption, reducing boot time and enhancing security.
  - Increased data capture reliability by 40% through a FreeRTOS-based data logger using UART and an SD card.
- Electronic Researcher**, Mechatronic Research Laboratory (MRL), Qazvin, Iran (August 2016 - April 2024)
- Enhanced robot control efficiency by 45% with ESP32 and Micro-ROS.
  - Designed a USB2Dynamixel board supporting TTL/RS-485, reducing actuator integration time.
  - Optimized UART communication with FIFO handling, boosting data throughput by 25%.
  - Refined IMU sensor performance (BNO055, MPU9250) with SPI and FreeRTOS for higher accuracy.
  - Led the electronics team, completing three projects on time and within budget.
- Freelancer**, Qazvin, Iran (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.
- Electronic Researcher**, Zanjan Sama Robotic Group (ZSR), Zanjan, Iran (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.

## Publication

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

## Skills

- Programming and Libraries**
- C programming, C#.NET, Python, LaTeX, OpenCV, FreeRTOS, TFLite, Micro-ROS
- Software Tools**
- Altium Designer, Circuit Maker, Keil(ARM), STM32CubeIDE, CodeVision(AVR), 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

## Education

- MSc. Electrical Engineering**, Qazvin I. Azad University (QIAU), Iran (2021-2025)
- BSc. Electrical Engineering**, Qazvin I. Azad University (QIAU), Iran (2016-2021)

## Honors

- RoboCup** — (2017-2021)
- 2nd Place, Humanoid League, Bordeaux, France
- 1st Place, Humanoid League, Sydney, Australia
- 2nd Place, Humanoid League, Montreal, Canada
- 1st Place, Humanoid League, Bangkok, Thailand
- IranOpen** — (2017-2023)
- First Place, Humanoid League, Tehran, Iran, 2023
- First Place, Humanoid League, Kish, Iran, 2018
- Second Place, Humanoid League, Tehran, Iran, 2017