

Mohammadreza Jafari

Embedded Systems & Software Developer

Contact Information Preview

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Summary

Highly motivated and results-oriented Embedded Systems and Electronics Developer with hands-on experience in microcontroller programming (STM32, ESP), communication protocols (SPI, I2C, Modbus, serial), and cross-platform application development. Proficient in Qt & QML for building intuitive user interfaces and experienced in LabVIEW for automation and measurement systems. Eager to leverage a strong technical foundation and problem-solving skills to develop innovative real-world solutions.

Skills

- **Microcontrollers:** STM32, ESP
- **Communication Protocols:** SPI, I2C, Modbus, Serial
- **Programming Languages:** C/C++, Python, JavaScript
- **Frameworks/Libraries:** Qt & QML, React, Next.js
- **Development Tools:** VS Code, Git, Arduino IDE, PlatformIO, LabVIEW
- **Hardware:** Electronic Circuit Design, PCB Prototyping, ADC, DAC
- **Operating Systems:** Cross-platform development

Work Experience

Workplace: Behpad Co. [2023-2025]

- **Embedded Systems Developer**
 - Developed robust firmware for STM32 and ESP microcontrollers, focusing on real-time operation and efficiency.
 - Designed and prototyped electronic circuits and PCBs for various embedded applications.

- Implemented and debugged a wide range of communication protocols including SPI, I2C, Modbus, and serial communication.
- Integrated hardware and software components to create comprehensive automation and measurement systems.
- **Qt/QML Application Developer**
 - Built and deployed cross-platform desktop and tablet applications for seamless device control and monitoring.
 - Crafted modern, responsive, and user-friendly interfaces using QML, enhancing user experience.
- **LabVIEW Developer**
 - Spearheaded the development of automation and measurement projects utilizing LabVIEW.
 - Successfully integrated data acquisition hardware and implemented real-time data visualization solutions.

Projects

- **Pressure Sensor Transmitter with WiFi Calibration**
 - Developed using an ESP microcontroller.
 - Receives millivolt input from PISO via ADC.
 - Provides outputs via Modbus, 4-20 mA, and a web interface for calibration.
- **Data Acquisition Device (4 Analog, 4 Digital Inputs)**
 - Powered by an ESP32 microcontroller.
 - Displays collected data on both a WiFi interface and an LCD display.
 - Features a Modbus TCP output, configurable via the web interface.
- **PWM and Frequency Generator and Reader**
 - Implemented based on an STM32 microcontroller for precise signal generation and measurement.
- **Smart Home Device Monitoring & Control App**
 - Cross-platform desktop and tablet application built with Qt and QML.

- Enables real-time monitoring and control of smart home devices.
- **Digital Instrument Cluster for Embedded Automotive Displays**
- Developed with Qt and QML, designed for integration into automotive systems.
- **Engine Tester GUI**
- Graphical User Interface developed using LabVIEW for engine testing and analysis.
- **Automated Temperature Monitoring & Control System**
- Designed and implemented an automated system for precise temperature regulation.

Education

Bachelor of Science in Computer Engineering

Islamic Azad University, Isfahan

Graduation: 2025

Languages

- **Persian:** Native
- **English:** Professional Working Proficiency