



EMRE ERGÜN

SENIOR SOFTWARE ENGINEER

00905365299933

pvt.emreergun@gmail.com

linkedin.com/in/emreergun

github.com/emre-ergun

SKILLS

Programming:

C, Python, Rust, C++, JavaScript, CMake, FreeRTOS, UML, OOP, Linux, Scripting

Industrial Automation:

CIP, EtherNet/IP, IO-Link, LLDP, OSI Model & Layers,

Project Management:

Jira, Agile SDLC, GitHub, Gitlab, CI&CD, Jenkins

WORK EXPERIENCE

Senior Software Engineer

Borda Technology

May 2024 – Present

Istanbul, Turkey

- Working on BLE projects including AoA, IoT, MQTT, AMQP technologies.
- Implementing software for the development of Indoor Tracking with BLE for the medical industry.
- Having experience in software development of Silicon Labs products including BLE radio.
- Developing software in C and C++ languages running on Micrium OS and Embedded Linux platforms.

Senior Software Engineer

Kunbus GmbH

August 2021 – December 2023

Istanbul, Turkey

- Developed new features for EtherNet/IP, a critical transport layer of CIP managed by ODVA, enhancing communication efficiency and functionality.
- Implemented LLDP (IEEE 802.1AB - Layer2) protocol, ensuring seamless operation within EtherNet/IP networks from scratch by using UML diagrams first.
- Architected state machine, linked list, queue and synchronization mechanisms to have robust and advanced software and to enhance the system performance.
- Designed and built a gateway between EtherNet/IP and IO-Link protocols, bridging communication and allowing data flow.
- Developed interface and wrapper functions for the IO-Link software stack, facilitating integration with the EtherNet/IP-IO-Link Gateway project.
- Maintained and improved the CMake infrastructure of the Gateway project, improving build efficiency and configuration management.
- Improved CI/CD processes managed by Jenkins server through the development of test scripts with Python and Javascript.
- Had experience in Sitara series microcontrollers (AM243x, AM64x) for robust software implementation for Texas Instruments(TI) the main customer.
- Followed Agile methodology for an international development team.
- Built projects by using C language running on FreeRTOS.

Software Engineer

THY Technic A.S.

October 2018 – July 2021

Istanbul, Turkey

- Designed and implemented a sensor fusion algorithm for the IMU/AHRS device to detect the aircraft's position.
- Acquired proficiency in DO-178C, adhering to stringent aviation software development standards.
- Had experience in writing clean and safe code for safety-critical systems.

- Developed a Qt/QML application for WinOS, enabling data visualization and analysis from embedded devices communicating via serial RS232 communication.
- Integrated an INS-P inertial navigation system driver into PX4 autopilot software, utilizing C++ skills for seamless sensor integration.
- Followed object-oriented concepts, Agile methodology for SDLC.
- Used C language with FreeRTOS or safety-critical RTOS for embedded software projects.

Software & Electronics Engineer

November 2013 – March 2018

Academic Research Group Ltd. Sti.

Istanbul, Turkey

- Developed bootloader for STM32 32-bit Arm Cortex MCUs using Ethernet protocol and internal memory.
- Used peripherals such as SPI, UART, I2C, SDIO, etc. in various projects.
- Had experience using Ethernet, RS485, RS232, and USB interfaces for indoor and outdoor projects.
- Worked on analog and digital mixed projects, utilizing voice on analog telephone lines to convert it into digital data for DTMF and Caller ID information, as well as to save digital voice for call centers.
- Architected software projects involving Wi-Fi and GSM/GPRS modules controlled by AT Commands.
- Designed LED matrix displays and developed software to be able to show letters and some basic graphics on them.
- Built most of the projects using C language as bare-metal applications.
- Designed and developed schematic and PCB layout including ARM 32-bit MCUs, ADCs, uSD Card, various sensors, etc.

EDUCATION

Bachelor of Engineering | *Electrical and Electronics Engineering*

Karadeniz Technical University

October 2007 – December 2012

Trabzon, Turkey