

M. Erdem Tusun

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EXPERIENCE

Analog Devices

Embedded Systems Intern | July-August 2022 | Istanbul, Turkey

- Worked with Digital Healthcare Team that is working on a Smart Watch project.
- Examined the embedded software of the smart watch and learned how the algorithms were implemented in the watch, the importance of RTOS for the watch, and how the sensors worked.
- By examining the algorithm team, examined the algorithms in which measurement data are processed and learned the algorithm development and testing stages.
- Experimented by writing his own codes with the MAX32666 card produced by Analog Devices, which uses an ARM MCU like the microcontroller used in a smart watch and developed simple projects with simultaneous tasks using freeRTOS.
- Helped with the tests and developed a Python parser application that took the binary data produced by the smart watch in the tests and converted them into a readable csv file.

ESİT Electronics

Embedded Software and Hardware Engineer | July 2023 – Recent | Istanbul, Turkey

- Working on implementing LoRa Communication to ECI (indicator that using on all ESİT systems.) for Smart Agriculture Project. Building a LoRa network all by himself to communicate a lot of wind machine system from a center even the systems out of centers range with using hop-by-hop communication method. Developing its embedded software on STM32 Microcontroller.
- Designed a LoRa RF Module PCB and improving its performance.
- Working on designing a PCB for Load Cells.

PROJECTS

TUBİTAK (THE SCIENTIFIC AND TECHNOLOGICAL RESEARCH COUNCIL OF TÜRKİYE)

Smart Earthquake Vibration Sensor Project | March 2023 - Recent

- Working on developing an earthquake sensor system to detect damaged buildings with only using its vibration measured by special designed sensor that built with strain gauge technique and low power Microcontroller.
- Developing embedded software to use Fourier Transform and Deep Learning on STM32 Microcontroller using TensorFlow Lite, STM32CubeAi and CMSIS.
- Using ADXL355 MEMS sensor to test and comparing vibration results.
- System also has LoRa SX1276 for communication.

Marco

Autonomous Vehicle for Digital Technologies in Industry Competition | Jan - June 2023

- **Winner** of TEKNOFEST ISTANBUL 2023 "Digital technologies in Industry" Competition.
- Worked with the team on a vehicle that is designed for carrying cargo in warehouse fully autonomous.
- Developed Embedded Software on STM32 F407 microcontroller.

REFERENCES

Prof. Dr. Cem Ünsalan

Dean of Engineering Faculty on Yeditepe University and former department head on Marmara University

Contact: unsalan@gmail.com

SKILLS

Embedded Software | ARM , STM32, ESP32 , Keil uVision , Eclipse IDE , HAL , RTOS , FPGA , Verilog , Machine Learning , TinyML

Embedded Hardware | PCB Design , Altium , KiCAD , Semiconductors , Integrated Circuits , RF Module Design

Programming | C , C++ , Java , Python , C#

Web and App development, MATLAB

Soft Skills | Dexterity , Teamwork , Fast Learner

EDUCATION

MARMARA UNIVERSITY

Electrical-Electronics Engineering (English)
Sep 2020 – Current | Istanbul, Turkey

- Organization Team Member in IEEE Marmara Student Branch, Robotics and Automation Society.
- Working to organizing educations about automation, robotics and Summits with companies and skilled engineers. He took part in the organization of the Defense Industry Summit, Artificial Intelligence Summit etc.

RELATED COURSEWORK

- Microprocessor Systems
- Digital Design
- Object-Oriented Programming
- Digital Communications
- Digital Signal Processing
- Artificial Intelligence in Health Sciences

LANGUAGES

- English | B2
- German | A2
- Turkish | Native