# Mehmet Dora | Embedded Systems & Software Engineer


**CONTACT**

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I am an engineering student who made a deliberate shift from backend development toward embedded systems — driven by a lifelong passion for electronics. I find deep satisfaction in controlling hardware with microcontrollers, extracting meaning from real-world data, and building toward a career in embedded and defense technologies.

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## PROFESSİONAL EXPERİENCES

**Software Engineering Intern | July - September 2025**
ePati Siber Güvenlik A.Ş. | Teknopark - Yenişehir/Mersin 🔗

- Developed a web application to detect and visualize conflicts between firewall rules (IPs, ports, protocols) using Node.js and Express.js, involving rule parsing and conflict logic comparable to embedded communication protocol analysis.
- Simulated one year of per-second temperature data from 100 sensors using TimescaleDB; focused on time-series data compression and query optimization — directly applicable to embedded sensor data pipelines.
- Stack: Node.js | Express.js | React.js | PostgreSQL | TimescaleDB | Docker | child_process

**Software Engineer Intern | July - August 2024**
*SEYTİM(Seyhan Belediyesi Teknoloji ve İnovasyon Merkezi)* | Adana

- Developed a full-stack web application with a teammate using PHP/Laravel, Bootstrap, and jQuery; gained experience in collaborative engineering and structured system design.
- Implemented database management and optimization (MySQL, Eloquent ORM) to improve system performance — experience in data reliability and efficient resource usage relevant to embedded data handling.

## EDUCATİON

**Çukurova University | 2021 – 2026 (Continuing)**
Bachelor's Degree in Computer Engineering

## SKİLLS

**Embedded Systems**

- STM32 (HAL/LL) | ADC-DAC | UART | I2C | SPI | FreeRTOS
- ESP32s3 Sense | Wifi & BLE | image processing
- PIC16F887 | MPLAPX | Simulide

**Backend - Data**

- PHP(Laravel) | PostgreSQL | TimescaleDB

**Sensors & Actuators**

- HB100 Doppler Radar Module
- MCP6002 OpAmp
- HC-SR04 Ultrasonic | Stepper Motor Control
- MPU6050

**Tools**

- Git / GitHub
- Docker

**Languages**

- C/C++ (Embedded) | Python | JavaScript | PHP

**Core Competencies:**

- Problem Solving | Data Analysis | Performance Optimization | Real-Time Systems
- Embedded Systems Design Patterns | State Machine Design

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## PROJECTS

**STM32 Illegal Vehicle Detection Radar System (In Progress)**

- Developing an STM32-based radar system to detect motorized vehicles illegally operated on sidewalks.
- Processes HB100 analog output via Op-Amp with ADC, applies FFT for Doppler frequency extraction and threshold-based classification to distinguish moving vehicles from background noise.
- Handles real-time sensor data acquisition and processing on a resource-constrained microcontroller; focuses on low-latency detection and accurate classification suitable for urban safety applications.
- Stack: STM32 - ESP32s3 Sense | C | HB100 Radar Module | FFT | image processing

**HC-SR04 Radar Visualization System**

- Built a scanning radar system using a stepper motor to rotate an HC-SR04 ultrasonic sensor 180° & 360°, streaming live distance measurements to a PC via UART.
- Developed a Python application that reads serial data and renders a real-time polar radar display alongside a terminal readout, enabling visual spatial mapping of surrounding objects.
- Stack: STM32 | C | HC-SR04 | Stepper Motor | UART | Python | pyserial | matplotlib

**Blogram – Multi-user Live Blog Platform** **blogram.com.tr**

- Full-featured blog platform with Google/GitHub OAuth2 login, a rich text editor, caching, and complex database relationships.
- Stack: Laravel | Livewire | Bootstrap | jQuery | Jodit Text Editor | OAuth2

## COMMUNITY & CONTENT

**Telegram Channel – Embedded Systems & Learning Posts**

- Curate and share embedded systems resources including book notes (e.g., Making Embedded Systems, The Art of Electronics), technical articles, and personal Medium posts on microcontrollers and low-level programming.
- Covers STM32, communication protocols (UART/I2C/SPI), sensor interfacing, and real-time system design topics — reflects consistent self-directed learning outside of academia.

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## LANGUAGES

- **English(B2)**
- **Turkish(Native Language)**