EDEN SHEIKO

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EDUCATION

HOLON INSTITUTE OF TECHNOLOGY Holon, Israel
B.Sc. in Computer Science, GPA: 85.3/100 *2020 – 2024*

- Relevant Coursework: Operating Systems, Data Structures & Algorithms, Computer Architecture, Networks, Embedded Systems, Linear Algebra

TECHNICAL SKILLS & COURSES

Languages: C, C++, Python, Assembly

Embedded & RTOS: STM32, ESP32, ARM Cortex-M4/M7, FreeRTOS, Bare Metal, Embedded Linux, Bootloader development, DMA, Interrupts, Multi-threading

Protocols: UART, I2C, SPI, CAN / CANopen, RS-485, LoRa, TCP/IP, UDP, Wi-Fi (802.11), Bluetooth

Tools: Git, Jira, CMake, Unity + CMock, GitHub Actions (CI/CD), Logic Analyzer, Oscilloscope

Languages (spoken): Hebrew (native), English (fluent)

Professional Courses:

- **Real Time Embedded Linux** — Real Time Group (Software Solutions)
- **STM32Fx Microcontroller Custom Bootloader Development** — Udemy

EXPERIENCE

DAIRYCS Israel | *2025 – Present*
Embedded Software Engineer

- Designed a custom STM32 bootloader handling UART-based firmware updates, flash memory management, and safe application handover.
- Developed a system logger/analyzer for UART and RS-485 traffic, used to debug and validate inter-device communication.
- Maintained and optimized the Alpha Mark 2 milking robot, troubleshooting complex real-time behavioral bugs in production.

REAL TIME GROUP – SOFTWARE SOLUTIONS *(Returning Engineer) 2025* | Israel
Embedded Software Engineer — Project: Embedded Control System (Classified)

- Re-engaged by the company to lead embedded firmware on a specialized classified project, leveraging prior team relationships and domain knowledge.
- Developed low-level Wi-Fi features using raw 802.11 protocols on ESP32.
- Built a UART communication stack between two ESP32 devices supporting real-time, reliable data exchange under FreeRTOS.

TAUMED R&D Israel | 2024 – 2025
Embedded Software Engineer — Military-Grade Robotic Platform

- Developed and integrated embedded systems for a military-grade robotic platform built with an elite IDF unit, on STM32L4K14 (ARM Cortex-M4).
- Implemented long-range, low-power LoRa communication for reliable performance in mission-critical field environments.
- Integrated and fine-tuned Maxon BLDC motors for precise motion control under field conditions.
- Designed communication interfaces over UART and CANopen for real-time data exchange between system components.

REAL TIME GROUP – SOFTWARE SOLUTIONS *(Initial Tenure)* Israel | *2023 – 2024*
Embedded Software Engineer

Project: SavorEat — Robotic Chef Machine

- Developed middleware in C/C++ for ARM-based embedded Linux (STM32 F767ZI, ARM Cortex-M7).
- Optimized data transfers using DMA and interrupts, improving response times and reducing CPU load.
- Designed driver interfaces for I2C, SPI, and UART under FreeRTOS; focused on multi-threading and DB integration.
- Built a motor-control API over CAN bus and RS-485 (iEM-RS2323 motor, NEMA 23XX series); collaborated closely with the hardware team.

Project: Navigicom — Lisbon Drone

- Worked with LoRa, ESP32, and the USRP E320 software-defined radio system.
- Developed multi-threaded drone software in C, ensuring reliable data transmission and efficient operation.
- Built communication interfaces over TCP/UDP and UART, enhancing system connectivity.

MILITARY SERVICE

ISRAEL DEFENSE FORCES (IDF) Israel
Squad Commander — Magal

- Led and trained a squad; developed leadership and decision-making skills under high-pressure conditions.