

Mohammad EL-MUSLEH

Software Engineer

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Software Engineer with 4+ years of experience in C#, C++, and embedded systems.
Specialized in developing robust solutions bridging hardware and software layers.

SKILLS

Core Software Engineering: C# (.NET), C/C++, Python, Object-Oriented Programming, Multithreading & Concurrency
Hardware & R&D Integration: Hardware-in-the-Loop (HIL), Signal Processing, ARM Cortex-M3/M4, FreeRTOS
Architecture & Protocols: SOLID Principles, Layered Architecture, Modular Firmware Design, CAN/UDS, TCP/IP, BLE
Modern Dev & Testing Practices: Git, CI/CD Pipelines, Unit Testing (TDD), Docker, Jira, Confluence, Agile Methodologies
Tools & Debugging: Visual Studio, STM32Cube, Keil μ Vision, CANalyzer, Oscilloscope, Logic Analyzers
AI & Automation Toolchains: LangChain, Local LLMs (Ollama), GenAI for Unit Test Automation and CI/CD Workflow

EXPERIENCE

Freelancer

Nov. 2024 – Present

Software Engineer

Wernau (Neckar), Germany

- Delivering software solutions for international clients, demonstrating strong communication and problem-solving.
- Utilizing GenAI to automate unit test generation, ensuring full coverage of critical edge cases and logic branches.
- Contributed to 3+ open-source projects to strengthen collaborative development and real-world coding proficiency.

ALTEN GmbH

Feb. 2022 – Oct. 2024

Software Engineer

Coburg, Germany

- Developed a firmware update tool utilizing C++ and C# .NET, enabling synchronous updates via CAN interface.
- Mapped R&D requirements to hardware test execution using Jira, Confluence, R4J, and Xray with 100% traceability.
- Performed low-level debugging using CAN interfaces to resolve complex timing and synchronization issues.
- Debugged and unit tested multithreaded applications in Visual Studio within agile sprints.
- Collaborated with cross-functional engineering teams across five countries to resolve 70% of field-reported issues.

Bosch Thermoteknik AB

Mar. 2021 – Jan. 2022

Software Engineer

Tranås, Sweden

- Designed and maintained multithreaded C# applications used by 100+ service technicians across Europe.
- Reduced flashing time 75% by increasing CAN baud rates from 125 to 500 kbps, quadrupling throughput.
- Applied SOLID principles to refactor legacy code, improving maintainability for future integration of new hardware.

NEVS AB

Feb. 2020 – Dec. 2020

Software Engineer

Trollhättan, Sweden

- Developed a novel methodology for test case generation based on research in automotive system validation.
- Masters Thesis: Automated test case generation from system requirements in automotive environments.

EDUCATION

Uppsala University (Ranked 87th globally, QS)

Sep. 2018 – Nov. 2020

Master of Science in Embedded Systems

Uppsala, Sweden

- Core areas: Microcontroller Programming, Embedded Linux, Wireless Communication, and Control Systems.
- Advanced topics: Model-Based Design, FPGA/Programmable Logic, Networked Embedded Systems.

Near East University

Sep. 2014 – Jun. 2018

Bachelor of Science in Computer Engineering

Nicosia, Cyprus

- Focus on computer architecture, digital systems, and object-oriented software development.
- Awarded half-tuition scholarship and multiple certificates of honor for academic excellence.

Languages

Arabic: Native

English: Full Professional Proficiency (C1 level; C2 Receptive)

German: Intermediate (Goethe-Zertifikat B1)

PROJECTS

Elevator Control System using STM32 MCU (Model-Based Design) Sep. 2019 – Nov. 2019
Uppsala University

- Developed a 3-floor elevator controller using MATLAB/Simulink and state-machine logic.
- Configured STM32 peripherals in STM32Cube; simulated, flashed, and debugged firmware in Keil μ Vision.
- Validated system performance using Model-in-the-Loop (MIL) and Hardware-in-the-Loop (HIL) testing.

Elderly Health Monitoring using IMU Sensors (Signal Processing) Nov. 2019 – Feb. 2020
Uppsala University

- Processed accelerometer and gyroscope data in MATLAB to perform step detection and position estimation.
- Applied RMS filtering and sensor fusion techniques to reduce noise and identify movement anomalies.

CERTIFICATIONS, WORKSHOPS & AWARDS

Prompt Engineering in Python (OpenAI API) | Packt (Coursera) Mar. 2025

Generative AI and LLMs Architecture | IBM (Coursera) Mar. 2025

CodinGame Certifications: C, C++, C# | CodinGame Jun. 2024

Winner: Carlsberg Hackathon | Carlsberg Group Nov. 2020

Machine Learning A-Z (Python & R) | SuperDataScience (Udemy) Jun. 2019

3D Printing Workshop | E2E Uppsala Apr. 2019

Additional Information

Driving License: Category B

Mobility: Open to nationwide relocation and travel

Work Authorization: Opportunity Card / Chancenkarte (§ 20a Abs. 3 AufenthG)

Notice Period: None (Available immediately)