Ali Alhalabi

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GitHub · LinkedIn
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Summary

Embedded Systems Engineer with experience in embedded programming, digitalization, perception and depth sensors, and real-time systems. Proficient in C/C++, Python, OpenCV, CUDA, and QT. Skilled in reverse engineering and bridging heterogeneous technologies.

Experience

- **Hochschule Hamm-Lippstadt**
  Research Assistant
  Artificial Intelligence (AI) and Worst-Case Execution Time (WCET).
  July 2024 - Present
- **Fachhochschule Dortmund**
  Research Assistant
  Research Skills, Data Analysis and Interpretation, Digitalization, Python programming, Case Studies, Creating Teaching Materials, Scientific writing.
  June 2023 - July 2024
- **Aura for Integrated Solutions**
  Internet of Things R&D
  Rapid prototyping, Microcontrollers, PCB Design, C/C++ programming, I2C, UART, TCP/UDP, and GPIB.
  Dec 2020 - June 2023

Skills

- **Programming Skills:** Proficient in C/C++, Python, BASH scripting, Matlab, CUDA, inline assembly, and Qt, distributed and parallel systems, Microcontroller (AVR, STM, and ARM based) programming, GUI design and logic programming with QT.
- **Technical Skills:** Skilled macOS, Windows, and Linux-based systems; proficient in documentation using LaTeX, GitHub version control, and 3D modeling with SolidWorks.
- **Interpersonal Skills:** Effective communicator, empathetic, responsible, and collaborative in team settings.

Education

- **Fachhochschule Dortmund**
  Embedded Systems Engineering, M.Eng
  Grade: 1.3
  September 2022 - June 2025

  Embedded Systems, Real-Time Systems, C, C++, Java, UML, SysML, CUDA, Radar/Lidar, Sensor Fusion, Low-Level Drivers, Point Cloud Processing, and Clustering.
- **KU Leuven - Belgium**
  Exchange Student
  March 2023 - March 2023

  Renewable Energy, Sustainable Mobility.
- **Al-Azhar University - Palestine**
  Mechatronics Engineering, B.Eng
  Grade: 86.9%
  September 2015 – August 2020

  Micro-Controllers, C, Mechatronics Systems, Electrical Systems, Control Systems, PCB.

Publications

- **Characterization of Artificial Intelligence Accelerators for Timing Analysis.** 2025 — Master Thesis.
- **Digital Case Studies for Transdisciplinary Project-Based Learning.** 2025 — Book chapter.
- **Using Digital Transformation Maturity Models in Project Design and Planning.** 2024 — Conference paper
- **Extending LiDAR Point Clouds with Radial Speed based on Radar Data.** 2024 — Project Thesis

Languages

- **German** - A2
- **English** - C2
- **Arabic** - Native