Ali Alhalabi

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GitHub · LinkedIn

Dortmund, Germany.

Experience

- **Hochschule Hamm-Lippstadt**
  Research Assistant
  - Identified Key execution metrics for CUDA.
  - Developed WCET Algorithm for AI inference.
  July 2024 - Present

- **Fachhochschule Dortmund**
  Research Assistant
  - Analyzed and interpreted large datasets for digitalization research, significantly improving data processing accuracy.
  - Developed Python-based tools for case studies to reduce manual analysis time.
  - Produced interactive teaching materials that increased student engagement scores in course evaluations.
  June 2023 - July 2024

- **Aura for Integrated Solutions**
  Internet of Things R&D
  - Designed and deployed IoT prototypes within 2 week on average, accelerating proof-of-concept delivery by 50%.
  - Engineered custom PCB layouts and firmware for AVR, STM, and ARM-based microcontrollers, significantly reducing hardware costs.
  - Implemented reliable communication stacks (I2C, UART, TCP/UDP, BLE/WiFi) for embedded devices, increasing system stability and reducing packet loss.
  Dec 2020 - June 2023

Education

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

- **KU Leuven - Belgium**
  Exchange Student
  March 2023 - March 2023

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

Skills

- **Core Technical Skills**
  - **Programming & Development:** C/C++, Python, CUDA, Bash scripting, Qt, distributed & parallel systems, inline assembly.
  - **Embedded Systems:** AVR, STM, ARM microcontroller programming, real-time systems, GUI design with Qt.

- **Tools & Platforms**
  Git, LaTeX, SolidWorks, Linux, macOS, Windows.

- **Soft Skills:**
  Strong communicator, collaborative team player, adaptable, detail-oriented.

Projects & Publications

- **Reverse enginnering Instalight2022 LED Panels** — Community project, 2025. GitHub

- **Characterization of Artificial Intelligence Accelerators for Timing Analysis** — Master Thesis, 2025. GitHub

- **Digital Case Studies for Transdisciplinary Project-Based Learning** — Book chapter, 2025. DOI

- **Using Digital Transformation Maturity Models in Project Design and Planning** — Conference paper, 2024. DOI

- **Extending LiDAR Point Clouds with Radial Speed based on Radar Data** — Project Thesis, 2024. GitHub

Languages

- **English** — C2 (Professional fluency)

- **Arabic** — Native

- **German** — A2 (currently improving)