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Rami Janini

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Amman, Jordan

Summary

Final year Electrical Engineering student at GJU with industry and research experience across AI, full-stack development, embedded systems, and hardware design. Published researcher and award-winning engineer with a track record of delivering end-to-end projects spanning machine learning, computer vision, FPGA, and PCB development.

Education

German Jordanian University — Madaba, JO
B.S. in Electrical Engineering, GPA: 85.2/100 — *Sep 2022 – Aug 2026*

- **Concentrations**: Embedded & Communication Systems
- **Coursework**: Embedded Systems, Computer Architecture, Digital Electronics (RTL/TTL/CMOS), Radio Systems (OFDM/Modulation/Channel Coding), Wireless & Mobile Communications (4G/5G)
- **Scholarship**: Erasmus+ mobility grant recipient for a semester exchange at Reykjavik University, Iceland

Work Experience

Markaba — Remote
Software Engineer — *Aug 2025 – Present*

- Full stack development of a car financing FinTech platform with open banking integration and production delivery.
- Built AI models for automotive market analysis and forecasting, enabling data driven pricing insights.

German Jordanian University — Amman, JO
Research Assistant — *May 2023 – Present*

- Co-authored 5 peer-reviewed publications on AI for medical applications with German research institutions.
- Designed and trained custom AI architectures for sleep disorder diagnosis, from model design to evaluation.

FADI-IMS — Amman, JO
Software Engineer — *Feb 2023 – Jan 2024*

- Built ML models and C++/OpenCV image processing pipelines for automated materials testing workflows.
- Engineered low level IPC via shared RAM, significantly reducing system latency.

Projects

- **CSI-Based Motion Detection System**: A human motion detection system using Channel State Information (CSI) from ESP32 to classify gestures using a DL model with PyTorch without camera-based sensor.
- **LSTM Accelerator on FPGA**: Designed and implemented a hardware-accelerated Long Short-Term Memory (LSTM) neural network on an FPGA board using VHDL/Verilog, parallelizing matrix operations to significantly reduce inference latency over software baselines.
- **3D Printing Failure Prediction System — JODDB Excellence Award**: Built an AI-powered add-on for 3D printers that detects and prevents print failures in real time using computer vision and a convolutional neural network trained on live camera feeds. Received a $7,000 award and full commercialization funding from the Jordan Design and Development Bureau (JODDB) in August 2023.

Selected Publications

- **Sensors 2025**: Using Masked Image Modeling Transformer Architecture for Laparoscopic Surgical Tool Classification and Localization. *Sensors* 2025, 25, 3017. ElMoaqet, H.; Janini, R.; Ryalat, M.; Al-Refai, G.; Alshirbaji, T.A.; Jalal, N.A.; Neumuth, T.; Moeller, K.; Navab, N. doi:10.3390/s25103017
- **CDBME 2025**: Spatio-Temporal Transformer for Surgical Instrument Recognition in Computer Aided Surgeries. *Current Directions in Biomedical Engineering*, vol. 11, no. 1, 2025, pp. 536–539. ElMoaqet, H.; Janini, R.; Alshirbaji, T.A.; Jalal, N.A.; Möller, K. doi:10.1515/cdbme-2025-0236

Skills

Programming: Python, C++, JavaScript, Embedded C, MATLAB

Machine Learning: PyTorch, TensorFlow, RAG Systems, Computer Vision, Sequential Models

DevOps / MLOps: Git, Docker, Kubernetes, GitHub Actions, CI/CD, ONNX

Hardware: DSP, FPGA, PCB Design, Power Electronics