Basel Mahmoud Alsemsam

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OBJECTIVE

Biomedical Engineering graduate with hands-on experience in medical devices, signal processing, software engineering, and embedded systems. Passionate about digital health, AI-driven diagnostics, and wearable technologies, with strong programming, 3D modelling, and collaboration skills.

EDUCATION

Ajman University
Bachelor of Science in Biomedical Engineering Aug. 2021 – Jun. 2026

- Program: Biomedical Engineering
- **CGPA: 3.75/4.00**

WORK EXPERIENCE

Emitac Healthcare Solutions (Dubai)
Engineering Intern Apr. 2025 – Aug. 2025

- Completed a 4-month technical training covering installation, PPM, and CM of medical equipment.
- Ensured optimal functionality and compliance of critical care, patient care, and CSSD systems.

Ajman University
Lab Experience 2021 – 2025

- Gained hands-on biomedical lab experience by contributing to AI-driven diagnostics, designing prosthetic and sensor-based systems, developing real-time patient monitoring solutions with Flutter and microcontrollers, and ensuring accuracy through rigorous device testing and calibration.

Self-Employed
Freelance 3D Designer & software developer 2021 – Present

- Created high-quality 3D models, precise CAD designs, and polished video content for various clients.
- Delivered creative solutions using advanced modelling and editing tools with strong project management.

Ajman University — Innovation Center
Technology Assistant Jun. 2024 – Present (1 Year)

- Working for a year as a Technology Assistant at the Innovation Center, supporting innovation initiatives, assisting with technical projects, and contributing to the development and prototyping of new ideas alongside students and faculty.

AWARDS AND HONORS

- **Best Research Award – ISCAS 2024**
- Participated in The 1st International Student Conference on Applied Sciences (ISCAS 2024) – January 2024.
- Awarded three consecutive Honor Assembly recognitions at Ajman University for sustaining a high GPA — Bronze Medal (2022), Silver Medal (2023), and Gold Medal (2024).

PROJECTS

- **Dia-Sens – Graduation Project (Multi-Frequency Exciter for Diabetic Neuropathy)**
- Developed a system that evaluates Vibration Perception Threshold (VPT) in diabetic patients by generating controlled vibrations (4–512 Hz) using an automated frequency-stepping algorithm.
- For more projects, please visit my website.

PEER-REVIEWED PUBLICATIONS (SCOPUS INDEXED)

- **M. Wattar, A. Shanableh, B. Semsam**, A. Alzughair, W. Shehieb and F. Jaber, "A Multi-Frequency Electro-Mechanical Exciter Instrument for Diabetic Neuropathy Assessment," 2025 IEEE Biomedical Circuits and Systems Conference (BioCAS), Abu Dhabi, United Arab Emirates, 2025, pp. 299-303, doi: 10.1109/BioCAS67066.2025.00072.

SKILLS & LANGUAGES

Technical Skills: Multilingual Programming, Signal Processing & AI, Software Development, 3D Modeling & CAD Design, Embedded Systems, Flutter App Development, Medical Device Instrumentation.

Soft Skills: Teamwork, Communication, Time Management, Problem Solving, Critical Thinking, Adaptability.

Languages: Arabic (Native), English (Advanced).

Licenses: UAE Driving License (Valid)