

Khaled Youssef Obeid

+96176740054 | khaled.y.obeid@gmail.com | LinkedIn: [Khaled Obeid](#) | GitHub: [Khaled Obeid](#) | Aley, Lebanon

Education

Lebanese American University, Bachelor of Mechatronics Engineering

2021 - 2025

- Recognized on Dean's Honors List for Fall 2025, Fall 2024, and Fall 2023.

Professional Experience

University of Stuttgart - Bruenstlmedizin (Stuttgart, Germany), Medical Robotics Intern

Jan 2026 - Mar 2026

- Designed a semi-automated needle guidance system for lymph node biopsy, including a monolithic parallelogram link mechanism actuated by a stepper motor mounted onto an ultrasound probe.
- Improved Remote Center of Mass accuracy by achieving <0.5 mm deviation, as measured by a Polytec PSV-500 laser vibrometer and an OpenCV Python code.

American University of Beirut, Undergraduate Research Assistant

May 2025 - Jul 2025

- Worked with the Unitree Go1 quadruped robot, exploring locomotion through Central Pattern Generators (CPGs).
- Developing and tuning Hopf oscillators to control joint trajectories, integrated with ROS2 to control the robot in both simulated and physical environments.

GABS S.A.L Maserati and Suzuki, Automotive Intern

Jul 2024 - Aug 2024

- Performed diagnosis and servicing for 21 high-end Maserati supercars.
- Diagnosed complex mechanical and electrical faults of 53 Suzuki vehicles.
- Collaborated with senior technicians to perform electromechanical vehicle inspections to ensure service efficiency.

Technical Projects

MIRA - My Indoor Rover Assistant (Capstone I/II)

Jan 2025 - Dec 2025

- Achieved real-time localization and mapping in indoor environments, as measured by continuous pose estimation and 3D map generation, by implementing a stereo-vision SLAM pipeline using the ZED SDK with structured data pipelines for frame processing and pose graph construction.
- Reduced navigation latency and improved system responsiveness by designing a distributed architecture with a laptop-side planner and Raspberry Pi controller communicating via HTTP-based APIs.
- Improved path planning efficiency, by reducing traversal time between waypoints, from implementing djikstra algorithm and integrating it into a modular navigation stack.

Hypoglycemia Detection from ECG Signals

Sep 2025 - Dec 2025

- Designed and trained deep learning models to detect hypoglycemia from 10-second ECG windows of 9 diabetic patients, including a CNN-BiLSTM with self-attention for binary classification of hypoglycemic vs. normoglycemic segments.
- Achieved 76% F1-score on hypoglycemia detection, as measured on test ECG segments, by designing and training a CNN-BiLSTM model with self-attention for time-series classification.
- Reduced class imbalance impact by implementing data preprocessing pipelines and threshold tuning strategies.

Tiago Robot Behavior Design and Simulation using ROS2

Jan 2025 - May 2025

- Implemented key behaviors from "A Concise Introduction to Robot Programming with ROS2" using the Tiago robot.
- Developed ROS2 packages implementing FSM obstacle avoidance, TF2 transforms, and Behavior Trees in Gazebo and RViz2.

Energy Generating Tiles

Sep 2024 - Dec 2024

- Designed 50 tiles that convert mechanical energy of footsteps into electrical energy for sustainable urban applications.
- Conducted extensive research to determine the optimal energy storage system, generation method, and feasibility analysis.
- Improved the the system's energy conversion efficiency to around 75%.

Certifications and Workshops

- Nvidia Fundamentals of Deep Learning
- MinnaLearn Elements of AI for Business
- IC2AI25 Conference ROS2 Workshop
- EFAI25 Conference ML with Google Sheets

Dec 2025

Aug 2025

Feb 2025

Jun 2025

Volunteering and Community Engagement

Lebanese Scouting Federation, Assistant Commissioner - Scout Commission

Feb 2023 - Present

- Collaborated with 14 chiefs to develop programs and activities that align with the Lebanese Scouting Federation curriculum.
- Appointed as the exclusive scout chief for the second national camp for strong leadership and strategic planning.

Personal Skills

Languages: Arabic (C2), English (C1), German (A1).

Programming: Python, C++, Java, Arduino.

Platforms: ROS2, Linux, RViz2, Gazebo, GitHub, Google Collab, Jupyter Notebook.

CAD: Autodesk Fusion, SolidWorks (CSWA), AutoCAD, LabVIEW.