Mariam Termos

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Education

Bachelor of Engineering in Computer and Communications Engineering   Aug 2019 **–** June 2024

American University of Beirut**,** Lebanon.

- GPA**:** 3.70/4.0.

Artificial Intelligence summer school   June 2023

Texas A&M University**,** Qatar.

- Topics included: Federated learning, Generative AI, Transformers, Deep learning, Neural networks.

Work Experience

NXP Cup 2025 Participant   Aug 2024 – Apr 2025

American University of Beirut, Lebanon

- Assembled the hardware to build an autonomous car, which included NAVQ Plus microprocessor and MR-CANHUBK344 controller.
- Implemented control algorithms in **C language** in **ROS2** framework on the controller.

Network Engineering intern   Dec 2024 – Jan 2025

Chimera Startup, Lebanon

- Developed Python scripts to automate tasks.
- Simulated network configurations using GNS3.

Research Assistant   Jan 2024 – Dec 2024

American University of Beirut, Lebanon

- Installed and configured Ubuntu 18 OS and Cognipilot software.
- Assisted in troubleshooting installation issues with students.
- Installed CARLA Simlation software on both Ubuntu 18 and 20 and configured a driving wheel with the system.

RF engineering intern   Summer 2023

SESAME light source, Jordan

- Learned about the working mechanism of particle accelerators: Electron beams, Microtrons, Boosters, Storage rings and Beam diagnostics.
- Assisted in designing **PCB boards** using **Altium Designer (schematics, layout, component selection)**..
- Trained in the RF lab on **repairing electronics boards**.

Projects

EECE 410 Lab, Integrated Systems: Spring 2024

- Built the electronic board (PCB printing and soldering components) of an audio amplifier after designing the layout and schematic and choosing the suitable electronics parts.
- Designed an electronic board for a coffee machine using the **PIC microcontroller**, programmed in **C language**.

EECE 460, Control Systems: Fall 2023

- Designed a controller for a steer-by-wire system using **Simulink** and **MATLAB**.

EECE 482, Applied Radio Frequency Engineering: Fall 2023

- Simulated RF components including filters, amplifiers, and oscillators on **ADS** software.

EECE 311, Electronics circuits: Spring 2024
- Designed and simulated CMOS circuits using Cadence PSPICE.

EECE 425, Embedded Systems and IOT: Fall 2022
- Programmed the **ESP-32 microcontroller** as both HTTP and MQTT clients using ESP-IDF.
- Implemented scripts in **C language** that included interrupts, registers modification**,** and communication protocols **(UART, SPI, I2C)**.

EECE 491, Digital signal processing: Spring 2023
- Designed digital filters using MATLAB.

EECE 321L, Computer architecture lab: Spring 2021
- Programmed the Nexys FPGA using VHDL as a finite state machine for a traffic lights.

Skills

- Programming: Python, C++, C, MATLAB, ROS2, LabVIEW, Shell scripting, Latex.
- Software: GNS3, Altium, SIMULINK, CARLA simulator, Gazebo.
- OS: Linux (Ubuntu), Windows.
- Languages: French, English, Arabic, basic Dutch, basic Spanish.

Extracurricular

Volunteering:
- First responder at the Lebanese **Red Cross** Emergency Medical Services (EMS).   July 2024 - July 2025
- Member of the International Education Association (IEA) team   Sep 2024 – Apr 2025
  prepared an online course for students willing to participate in the NXP Cup for autonomous cars. The course introduces students to Ubuntu OS, simulation with Gazeebo, microcontroller programming, image processing, and control algorithms.

Competitions:
- Participated in NXP 2025 for autonomous cars. The competition is about programming an NXP microprocessor to allow a car with a Pixy camera to drive autonomously on an unknown track in the minimum possible time using Cognipilot software.
- Won **first place** in the Sumo LEGO Robotics competition organized by the engineering faculty at AUB in Fall 2019. The LEGO Mindstorms EV3 was programmed using LabVIEW, the competition included teams of all first-year engineering students.