Apostolos Apostolou

MSc Student in Autonomous Systems at DTU | (+357) 97640674 | apostolosapostolou78@gmail.com

About me

Mechanical engineering graduate experienced in robotics and automation. Skilled in integrating hardware and software, with hands-on work in ROS2, Arduino, Raspberry Pi, electronics and mechanical design. Currently pursuing an MSc in Autonomous Systems at DTU.

Work Experience

R&D Engineering Intern | Elysee | Nicosia | 06/2025 – 07/2025

- Developed a **funding proposal** for a new product concept based on market research and analysis of the product development cycle.
- Conducted research and proposed solutions for integrating **automation systems** into the production process.
- Gained hands-on experience in **injection molding** processes, **quality control** procedures, and product certification standards.

Engineering Research Intern | Texas A&M University - Energy Efficiency Control Optimization Laboratory | Texas | 05/2024 – 07/2024

- Designed and implemented a **custom**, low-cost yet powerful **Data Acquisition Module** (DAQ) using **Raspberry Pi**, **16-bit ADC**, **Python**, and a custom **3D-printed** enclosure for measuring critical parameters in compressed air systems.

Research Intern | Kios Research and Innovation Center of Excellence | Nicosia | 07/2023

- Implemented a **linear programming optimization algorithm** using both **MATLAB** and **Python** for **minimizing electricity cost** by charging/discharging the PV system's battery storage at optimal hours.
- Implemented **cost calculation functions** using Python, and GUI improvements for a web dashboard that is used for calculating the electricity cost of a house in different cases (no PVs, PVs, battery storage, etc.).

Engineering Intern | NOVATEX Solutions | Nicosia | 05/2023 – 06/2023

- Created an **earthquake detection system** using an accelerometer, **ESP32**, **MQTT**, **InfluxDB**, **Node-Red**, and **Grafana**.
- Worked with **LoRa**/**LoRaWAN** (TTN) and established communication between different devices using encrypted data.
- Worked with **Rotrics Robot Arm** and created an instructions manual for it.

Mechanical Design Engineer Intern | CYPET Technologies | Nicosia | 06/2022 – 08/2022

- Designed complex parts and machines using **SolidWorks**.
- Designed & ran **injection molding simulations** using **Moldex3D** and analyzed the results.
- Created **2D Drawings** (for assembly purposes) and User Manuals.

Education

MASTER OF SCIENCE: AUTONOMOUS SYSTEMS | 09/2025 – 05/2027 | TECHNICAL UNIVERSITY OF DENMARK (DTU)

BACHELOR OF SCIENCE: MECHANICAL AND MANUFACTURING ENGINEERING | 09/2021 – 05/2025 | UNIVERSITY OF CYPRUS | FINAL GRADE: 9.30/10

Skills & Languages

- ROS2
- Electronics (Circuits/PCB Design)
- IoT & Robotics
- Programming (Arduino/Python)
- CAD/CAM (SolidWorks/Fusion360)
- Languages: Greek & English

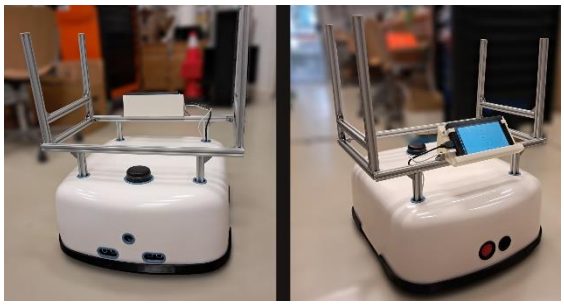
Awards & Achievements

- Awarded for academic excellence throughout all four years of university studies.
- Completed my mandatory military service in Cyprus (14 months) at Technical Corps (2020-21).

Selected Projects (For all my projects, visit my website: aa.netcy.com)

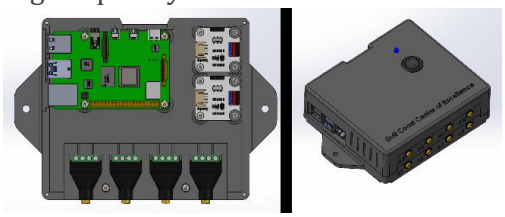
Final Year Thesis: Autonomous Mobile Robot for Payload Transportation

- Developed an autonomous robot using ROS2 for indoor payload transport.
- Implemented SLAM and autonomous navigation using the NAV2 Framework.
- Designed Arduino PID motor control and integrated LiDAR, encoders, Raspberry Pi 5.
- Simulated in Gazebo and validated on real hardware.



Custom Data Acquisition Module (DAQ)

- Designed and built a DAQ system for compressed air systems using Raspberry Pi & 16-bit ADC.
- Developed Python scripts for data collection and a 3D-printed enclosure for housing.
- Fully tested and validated during the 2-month internship.



Indoor Robot Positioning System based on Wi-Fi signals: An implementation using Machine Learning.

- Created a Wi-Fi-based localization system for robots using Python.
- Trained and compared KNN and Random Forest regression models.
- Achieved accurate indoor position estimation using signal strength data.