Apostolos Apostolou

Mechanical Engineering Student - University of Cyprus

Final-year mechanical engineering student experienced in robotics and automation. Skilled in integrating hardware and software, with hands-on work in ROS2, Arduino, Raspberry Pi, electronics and mechanical design. Ready to deepen expertise in the area through advanced study.

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WORK EXPERIENCE

Engineering Research Intern
Texas A&M University - Energy Efficiency Control Optimization Laboratory

05/2024 - 07/2024   *Texas, USA*

Exprerience

- **Designed** and **implemented** a custom **low-cost** yet powerful **Data Acquisition Module (DAQ)** using **Raspberry Pi**, **16-bit ADC**, **Python**, and a **3D-printed** enclosure for measuring critical parameters in compressed air systems.
- **Developed** all **electronic** circuits, **software**, and **hardware** independently.
- Features: data acquisition, local and cloud storage, real-time online visualization.
- **Learned** the basics of **compressed air systems** and **research processes**.

Research Intern
KIOS Research and Innovation Center of Excellence

07/2023 - 07/2023   *Nicosia, Cyprus*

Experience

- **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.).
- **Learned** about the **electricity grid**, AC power, **renewable energy sources**, and how to improve them by integrating **smart technologies**.

Engineering Intern
NOVATEX Solutions

05/2023 - 06/2023   *Nicosia, Cyprus*

Experience

- **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**, created an instructions manual for it, and learned the basics of robotic arms.

Mechanical Design Engineer Intern
CYPET Technologies

06/2022 - 08/2022   *Nicosia, Cyprus*

Experience

- **Designed** complex **parts** and machines using **Solidworks**.
- Designed/ran **injection molding simulations** using **Moldex3D** and **analyzed the results**.
- Created **2D Drawing**s (for assembly purposes) and **User Manuals**.
- **Learned** about **injection/stretch blow molding** and the basic principles of **designing for manufacturing** (DFM) and **assembly**.

SKILLS

ROS2 · Electronics (Circuits/PCB Design) · IoT & Robotics · Programming (Arduino/Python) · Mechanical Design · CAD/CAM (Solidworks/Fusion360) · FEA · Practical Skills (Hand/Power tools etc)

EDUCATION

Bachelor of Science: Mechanical and Manufacturing Engineering
University of Cyprus - Nicosia

09/2021 - Present   *9.21/10*

Achievements

- Awarded for my 1st, 2nd and 3rd Year academic performance.

Materials Technology and Processes - Erasmus Blended Intensive Programme
Esslingen University

10/2024   *1 week educational program*

Lectures and laboratory exercises on the following topics:

- Metal Forming
- Fatigue
- Metallography

High School Diploma
Palaiometocho Lyceum - Nicosia

09/2017 - 06/2020   *Final year average grade: 18.89/20*

Courses

- Advanced Mathematics, Physics, Computer Science, Design and technology

HONORS & OTHER ACHIEVEMENTS

Completed my mandatory military service in Cyprus (14 months) at Technical Corps (2020-21).

Competed in national robotics competition - Line following (July 2023).

"Excellence" achievement received for all the years of secondary education.

LANGUAGES

Greek
Native or Bilingual Proficiency

English
Full Professional Proficiency