

Alexandros Charitonidis *Junior Mechatronics Engineer*

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Summary

I am a recent graduate from the University of Glasgow with a Mechatronics Engineering degree equipped with a broad skill-set covering important facets of the mechatronics branch.

During my undergraduate degree, I have successfully completed multiple projects involving mechanical and mechatronic systems for the optimisation of electric vehicles and automotive electronics (EVAEL research lab). Besides, I had the opportunity to develop a variety of skills which finally led me to the fulfilment of my internship as a laboratory assistant.

- Electro–Mechanical Design
- Scientific Research
- PCB Fabrication, Validation and testing

My research master's dissertation involved the study of capacitive tactile sensors with a state-of-the-art material for e-skin applications. In conjunction with the technical skills I have acquired, the whole process allowed me to work with the Bendable Electronics and Sensing Technologies group on various custom made additive manufacturing technologies.

I have strong expertise in embedded hardware and fueled by my curiosity, I am eager to continuously progress my skills and explore all aspects of engineering.

- Excellent critical Thinking Skills
 - Proficient in CAD and ECAD softwares
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Experience

[CERCA Abroad](#)|[International Hellenic University](#)

THESSALONIKI, GREECE

Academic & Student Services Coordinator

Jun '22 – Today

Coordinates the Engineering Internships for a study abroad program:

- Provided guidance and taught undergraduate and postgraduate students the field of drone development.
- Created and effectively delivered a curriculum for drone engineering, including frame construction with additive manufacturing technologies, drone assembly and electronics, flight controller programming and autonomous flying.
- Provided administrative and social support to the interns, from various universities in the world, on a daily basis throughout their internship period.

[SMARTSEA MSc](#)|[International Hellenic University](#)

HYBRID TEACHING MODEL - THESSALONIKI, GREECE

Teacher - Researcher

Aug '21 – Jul '22

Teaching and research work on ROUVs as a member of the teaching staff including:

- Curated academic lecture notes involving electric systems on Remotely Operated Underwater vehicles (ROUV) and created a laboratory course on Data Acquisition and Sensors.
- Taught a cohort of professionals and graduates three courses at postgraduate level, through an interactive hybrid learning platform. Additionally, laboratory courses that were performed on-site included LabView training with myRio controllers and compactRio DAQ systems.
- Researched and implemented a sensor cluster for water quality monitoring embedded in the existing control system of the ROUV. Real-time monitoring through a Graphical User Interface created in Python through the QT framework. Additive manufacturing technologies were used for the cluster.
- Supervised an undergraduate thesis on seawater quality monitoring and created 3D models including technical drawings.

[EDRIVE TOUR](#)|[International Hellenic University](#)

THESSALONIKI, GREECE

Teacher

Mar '22 – Jun '22

Teaching duties on vehicle electrification and energy storage systems including:

- Taught undergraduate and postgraduate students, courses related to lightweight materials, demonstrating vacuum forming of carbon fibres for various fairings of automotive parts. Advance manufacturing techniques were explored and taught.
- Led on the upgrade and maintenance (of teams formed from the students) of electrically-assisted tricycles, electric moped and electrified Go-Kart.

[International Hellenic University](#)|[EVAEL](#)

THESSALONIKI, GREECE

Laboratory Intern

Apr '17 – Nov '17

Performed duties on the premises of the Electric Vehicles and Automotive Electronics Laboratory (EVAEL) including:

- Supervision and design of the laboratory's renovation.
 - Technical and educational assistance on laboratory courses involving vehicle electrification.
 - Carried out day-to-day administrative duties accurately and efficiently.
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Education

University of Glasgow

GLASGOW, UNITED KINGDOM

Master's degree in Mechatronics, MSc

2019 – 2020

Focused on Analogue and Digital Control, Digital Signal Processing, Robotics and Real-Time Embedded Programming. The latter were applied on multiple programming and electronics projects on individual and group level. Through my thesis, I researched and modelled state-of-the-art materials used in tactile sensors for artificial fingertips.

Additionally, I expanded my knowledge of Advanced Manufacturing and worked on projects requiring Fault, Detection, Isolation and Reconfiguration through FMEA analysis and root cause analysis.

International Hellenic University

THESSALONIKI, GREECE

Bachelor's degree in Automotive Engineering, BSc(Hons)

2012 - 2019

Emphasis in Analog and Digital Electronics, Automotive Electronics and Mechatronics. Technical drawing; including CAD and ECAD Softwares. My final year project which involved the development of a Li-ion battery pack for the conversion of a bike to an e-bike was published at a conference.

Skills

Technical specialties: Hardware design and implementation, with(in) a team. Expertise in micro-soldering with experience using stereoscopes. Can create and maintain detailed technical documentations.

Some of the programming languages that I have extensively worked with include:

| Python/C++/C/MATLAB/ Javascript.

I am a certified Solidworks Professional in mechanical design and familiar with the following software

| CAD and ECAD: SolidWorks, Autocad, Altium Designer, Eagle, Cadence

| Simulation: COMSOL, Solidworks Flow, Solidworks Simulation

Natural languages: Greek (*native*), English (*full professional proficiency*), Turkish (*full professional proficiency*).

Certifications

Solidworks Professional - Mechanical Design

Issued On: 02/02/2021

Certificate ID: C-MXNZFY8RTC

Issued By: VirtualTester Online, Tangix Design Development AB

Relevant skills:

- *Drawing Tools* | C-SY52DPLA69 | 02/04/2021
- *Sheet Metals* | C-NYTPWA3B7S | 13/07/2022
- *Surfacing* | on-going

Arduino Certification - Electronics and Physical Computing

Issued On: 24/06/2021

Certificate ID: 63a28918-202b-4e33-9792-b29842cc7881

Issued By: Arduino Education Team

Publications

A. Charitonidis, D. Tziourtzioumis, K. Kravari, and T. Kosmanis, "Marine Surveying Education by Implementing Artificial Intelligence on Remotely Operated Underwater Vehicle Sensors" *Lecture Notes in Networks and Systems*, 2022, 332, pp. 110-119.

A. Charitonidis, F. Athanasiadis, A. Manolas, and T. Kosmanis, "Development and modelling of a battery system for commercial electric bicycles," in *Transport Means - Proceedings of the International Conference*, 2019, vol. 2019-October, pp. 326-329.