

CHARALAMBOS HADJIPANAYI

Home Address: 24 Ayiou Lazarou Street, Strovolos 2055, Cyprus

UK Address: 222 Cromwell Road, Kensington, London, SW5 0SW

Phone: 07760632789 (UK), 99036059 (CYP)

Email: charalambos.hadjipanayi15@imperial.ac.uk

I am an MEng Biomedical Engineering (MEng 4YFT) graduate student at Imperial College London studying. The field that raised my interest during my academic studies, is Digital Signal Processing with applications in healthcare sector. Specifically, I would like to use my research time to make important discoveries in the field of Biosignal Data Analysis and Processing, Machine Learning and Neural Networks, Human-Machine Interfaces and any other relevant state-of-the-art methods and technologies. For this reason I am pursuing a PhD in Next Generation Neural Interfaces Lab at the Department of Electrical and Electronic Engineering at Imperial College London.

Education

- **BIOMEDICAL ENGINEERING (MENG 4YFT), IMPERIAL COLLEGE LONDON 2016-2020**
 - First Class Honours – Programme Total: **80.91%**
 - First-Year Average: 84.3% (Dean's List)
 - Second-Year Average: 86.2% (Dean's List)
 - Third-Year Average: 80.11% (Dean's List)
 - Fourth-Year Average: 77.06%
- **THE GRAMMAR SCHOOL NICOSIA (HIGH SCHOOL) - 2007-2014**
 - School Leaving Certificate : (98+6/7) %
 - GCE A Level Biology, Physics, Mathematics, Further Mathematics : A*
 - Academic excellence award for years 2007-2014 at Grammar School Nicosia.
 - Highest International mark (joint) in Edexcel GCSE Mathematics.

Skills

- Hard-working, with attention to detail.
- Problem-solving and creating-thinking.
- Strong Communication and Cooperation skills.
- Computer Modelling and Programming skills using C, C++, MATLAB and Python.
- Motivated to develop new innovative solutions in healthcare sector.
- Willingness to Learn and hear other opinions.
- Work comfortably with Microsoft Office and LaTeX.

Academic projects

- **CYBATHLON 2020 POWERED-EXOSKELETON RACE – FINAL YEAR MENG INDIVIDUAL PROJECT (2019-2020)**

This project aims to develop a powered lower limb exoskeleton to compete in Cybathlon 2020 in Zurich. The project requires developing novel control algorithms, as well as necessary hardware upgrades to an existing exoskeleton, to assist gait to those who have partially lost the capacity of walking or to those people that need to learn how to walk again after suffering neural damage. The main objective is to enable user to perform standing up/sitting down and manipulating objects when standing.

- **PERFUSION BIOREACTOR FOR 3D CELL CULTURE – THIRD YEAR MENG GROUP PROJECT (2018-2019)**

The aim of the project was to replicate in vitro the mechanical strains encountered by cells in abdominal cavity, through the design of a perfusion bioreactor with an integrated mechanism of precisely controlling mechanical strains applied to cultured living cells, seeded on hydrogel scaffold. The device will allow long-term studies on how mechanical strain regulates adipogenesis. Personally, was involved in the design of electronics of the compression and perfusion systems.

- **ASSISTIVE TECHNOLOGY BOARD GAME DESIGN AND DEVELOPMENT - ENGINEERING DESIGN PROJECT (2017-2018)**

The aim of the project was the design of an assistive technology board game, which enables children with high level motor control disabilities to play independently alongside their able-bodied peers, using different control technologies: Voice Control, a Pushbutton, and an Eyebrow control unit, composed of a Mechanomyogram (MMG) sensor and an Inertial Measurement Unit (IMU). The device also provided audio and visual feedback which was necessary for visually and hearing-impaired individuals.

Working and Research Experience

- **DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING - UNIVERSITY OF CYPRUS**

Summer Internship July-September 2019

The aim of the summer internship was to expand on the project of measurement of vital signs using Microwave Radar, under supervision of Prof. Constantinos Pitris. During the project, my responsibility was to develop a digital signal processing algorithm, in MATLAB, which would be able to extract patient's heart rate and breathing rate given Doppler Radar Signals. Simultaneously, ECG recordings were being obtained from patient and analysed by the algorithm to obtain reference heart rate and breathing rate samples. Algorithm involved many processing techniques, for instance digital filtering, Fast Fourier Transform, Welch, Burg, Yule-Walker, and Lomb-Scargle PSD estimation methods.

- **SCIENTRONICS LTD**

8-week Summer Internship 2018

During the summer of 2018 I had an 8-week internship in Scientronics Ltd, which is a company responsible for the distribution, installation and maintenance of advanced technological products in all fields of healthcare and biotechnology in Cyprus. I was involved in preventive and corrective maintenance of a range of medical equipment and instruments like ADVIA Centaur XP Immunoassay System (by Siemens), AutoVue Innova Immunohematology (by Ortho clinical diagnostics) and Stirrer bascule blood mixer and Scale (by Relmedic). In addition, I was involved in visiting customer premises, such as Hospitals, Research Institutions, Diagnostic Centers and Universities, delivering, installing and repairing new equipment under supervision of experienced technicians and giving training to operators.

- **ELECTRONIC TELECOMMUNICATION OPERATOR OF CYPRUS NATIONAL GUARD GENERAL STAFF 2015-2016**

During the second year of the compulsory two-year service in Cyprus National Guard, I was responsible for the operation of electronic communications and manager of the social media webpage of National Guard General Staff.

- **MOLECULAR MEDICINE RESEARCH CENTER – UNIVERSITY OF CYPRUS**

Summer Internship July-August 2013

Internship involved observing and performing molecular experimental procedures under the supervision of Prof. Constantinos Deltas.

Activities

- Participated in the 9th Pancyprian Mathematical conference in a discussion group to explain how to use mathematics in resolving criminal cases.
- Participated in a bi-communal summer camp "birds for the future" supported by the US embassy, that took place in both sides of the green line in Cyprus.
- Participated in the Model United Nations sessions in Hamburg-Germany representing Germany in the commission discussing sustainable development.
- Member of the grammar school's handball team as well as member of handball junior team of the European University of Cyprus.
- Member of a long-distance running club called Periclis Demetriou.
- Completed the Duke of Edinburgh's (DOE) Bronze award and Gold award practice.
- Volunteer at Cyprus Red Cross for 2 years (2012-2013).
- Proudly served the two-year compulsory military service in Cyprus National Guard.