VASILEIOS SKARAMAGKAS

Electrical Engineer

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DATE OF BIRTH 02/02/1996

Profile

Innovative Electrical Engineer with a Diploma Thesis on Biomedicine and Control. Skilled in design, prototyping, and testing. Committed to working as a collaborative and positive team member, striving to utilize my knowledge and expertise for optimal engineering results.

Education

Sep 2014 — Sep 2019

University of Patras

BEng - MEng in Electrical Engineering and Computer Science

Integrated Master's degree in Engineering focused on Biomedicine as well as Control Systems and Automation. Apart from its primary target, it also provides knowledge in a wide variety of other fields, such as machine learning, artificial intelligence, programming, electronics, signal processing, mechanics, electrical engineering and telecommunications theory, among others.

My Diploma Thesis was conducted In cooperation with Post Doc. Georgios Andrikopoulos from Luleå University of Technology, Sweden and Prof. Nikolaos Koussoulas from Electrical and Computer Engineering Department, University of Patras. The Thesis focused on the identification of Parkinson's and Essential tremor and the investigation of its suppression via use of an exoskeletal robotic glove. This procedure contributed in my cognition development with respect to machine learning, signal processing and control theory. In particular, my Diploma Thesis involved the following:

- Use of sensors such as accelerometers, force and vision sensors in order to extract data related to human movements from volunteers, along with patients diagnosed with Parkinsonian or Essential tremor.
- Data and signal processing for machine learning purposes.
- Training and testing machine learning algorithms towards tremor identification
- Experimentation with Pneumatic Artificial Muscles (PAMs) and the evaluation of their operation for tremor suppression.

- Development of control strategies aiming to tremor repression.
- Evaluation of designed and constructed setups in patients with diagnosed tremor

Furthermore, the Thesis involved the strong collaboration with Assoc. Prof. Panagiotis Polychronopoulos and Resident Zinovia Kefalopoulou, Neurologists from Department of Medicine, University of Patras and gave me the opportunity to meet with a wide range of patients and practice my communication skills. Moreover, I was able to cope with complex issues and make critical decisions.

Sep 2011 — Jun 2014

1st High School of Volos, Greece

Secondary Education Degree

Focused on the field of Mathematics, Physics, Circuit Design and Biochemistry. Graduated with honours and a grade of 18.7/20.0.

In 2014, I participated at the National University Entrance Exams which I succeeded with a GPA of 18.374/20.000.

Experience

Nov 2019 — Present

Biomedical Engineer

Computational BioMedicine Laboratory ICS FORTH (Heraklion, Greece)

I am employed as a Biomedical Engineer under the supervision of Associate Professor Manolis Tsiknakis in the Computational Biomedicine Lab of the Institute of Computer Science, Foundation of Research and Technology Hellas.

I work in the H2020 funded project SeeFar (https://www.see-far.eu/) on the development of algorithmic approaches for the identification of emotional and cognitive processes and quantification of their states through eye tracking metrics. Another aspect of my work is furthermore the evaluation of methods for the detection and the progression of eye conditions such as glaucoma, diabetic retinopathy, presbyopia, cataract and age related maculopathy (AMD) by development of gaze tracking techniques. Both traditional (featured based) machine learning approaches as well as deep

learning methods will be explored and evaluated with respect to accuracy, sensitivity and specificity in diagnosis and prediction.

Skills

Automation	■■■□□	Signal Processing	■■■■□
Circuit Design	■■■■□	Machine Learning	■■■■□
Control Systems	■■■■□	Artificial Muscles	■■■□□
LabVIEW	■■■■□	Microsoft Office	■■■□□
Python	■■■□□	Critical Thinking Skills	■■■■□
C/C++	■■■□□	Decision Making Skills	■■■■□
Matlab/Simulink	■■■■□	Collaboration Skills	■■■■■

Languages

Greek	■■■■■	German	■■■■□
English	■■■■■		

Publications

V. Skaramagkas, G. Andrikopoulos, S. Manesis, *"An Experimental Investigation of Essential Hand Tremor Suppression via a Soft Exoskeletal Glove"*, 2020 European Control Conference (ECC '20), Saint Petersburg, Russia, May 2020

V. Skaramagkas, G. Andrikopoulos, Z. Kefalopoulou, P. Polychronopoulos, "Towards Differential Diagnosis of Essential and Parkinson's Tremor via Machine Learning", 28th Mediterranean Conference on Control and Automation (MED '2020), Saint Raphael, France, June 2020

References

Prof. Nikolaos Koussoulas
Department of Electrical Engineering and Computer Science
University of Patras

ntk@ece.upatras.gr

Researcher, Post Doc Georgios Andrikopoulos
Department of Computer Science, Electrical and Space Engineering
Luleå University of Technology

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Certifications

Oct 2017

Aeroworks Autumn School: Summer School on Aerial Robotics

Seminar which introduced me to high tech knowledge topics concerning aerial manipulation, vision for aerial manipulation, cooperative aerial coverage, modeling and control of UAVs, estimation and sensor fusion for UAVs and aerial reconstruction and inspection.

Additional Info

LinkedIn Profile

https://www.linkedin.com/in/vskaramagkas96/

ResearchGate Profile

https://www.researchgate.net/profile/Vasileios_Skaramagkas2