Konstantinos I. Mitsopoulos

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Skills & Proficiencies

- *Design and implementation of robotic platforms*
  - *ROS (Robot Operating System)*
- *Mechanical Design, through specialized software*
  - *Autocad, SolidWorks, Top Solid, Fusion 360*
- *Finite Element Analysis, through specialized software*
  - *Multisim , Autodesk FEA*
- *Electrical and Electronic Design, through specialized software*
  - *OrCAD, EAGLE, Multisim*
- *Development of algorithms and applications utilizing several computer languages*
  - *C, C++, Python, Javascript*
- *Applications in Data Analysis and Machine Learning (Python Language),*
- *Implementations of Matlab scripts and programs, for Computer Vision and Data management Applications.*
- *Control System Design and Modeling, using the Simulink package for Matlab.*
- *Experience and proficiency in various Operating Systems including Microsoft Windows and Linux, as well as in basic programs including MS Word, MS Excel , MS Project, MS Access.*

Education

Democritus University of Thrace， Polytechnic School of Xanthi

Production and Management Engineering Diploma (Integrated Masters)

October 2011 - November 2017

Thesis titled: *«Exploration of unknown areas for flying agents using Genetic Algorithm Theory»* at the Laboratory of Robotics and Automation, overseen by professor Gasteratos Antonios (graded at «EXCELLENT - 10»).

Aristotle University of Thessaloniki， Department of Physics

Master's Degree in Nanosciences and Nanotechnologies (MSc)

November 2017 - March 2020

Thesis titled: *«Design of a Prehensile Rehabilitation Assistant for Directed Actuation»* at the Laboratory of Medical Physics, overseen by professor Panagiotis D. Bamidis (graded at «EXCELLENT - 10»).

Languages

Greek

English

- FCE-Level 1 Certificate of English (University of Cambridge)

- ECCE-Certificate in Competency of English (University of Michigan).

Conferences

Conference titled: **"Bioelectronics"** 15-16 December 2017, Aristotle University of Thessaloniki

11th Symposium on Flexible Organic Electronics (**ISFOE2018**) , 2-5 July 2018, Thessaloniki , Greece

15th International Conference on Nanosciences and Nanotechnologies (NN18) , 3-6 July 2018, Thessaloniki, Greece

12th International Summer School titled : **"N&N: Organic Electronics & Nanomedicine"** (ISSON2018), 30 June - 7 July 2018, Thessaloniki , Greece

Conference titled: **"Biomedical Technology: Entrepreneurship, co-creation, communication"** , 12 December 2018 , ELEVIT, Thessaloniki , Greece

Research Interests

- **Biomedical & Rehabilitation Robotics**
- **Human-Machine Interfaces**
- **Wearables Technologies in Medicine**
- **Machine Learning implementations in Robotic and Control Systems**
- **Adaptive Control Systems**
- **Biosignal Analysis**

Publications

Abstracts in peer-reviewed published proceedings in international conferences

Mitsopoulos K, Papastergiou V, Arfaras G, Astaras A, Athanasiou A, Bamidis PD (2019) Modelling of a wearable jacket with sensors and actuators for upper limb rehabilitation. In: Bamidis PD, Athanasiou A, Gkergkis V (eds.) 8th Panhellenic Conference on Biomedical Technology, Conference Program & Book of Abstracts, p 93: extended abstract. poster presentation, 8th Panhellenic Conference on Biomedical Technology, Athens, Greece, 9-10/5/2019

Mitsopoulos K, Papastergiou V, Athanasiou A, Arfaras G, Terzopoulos N, Pandria N, Antoniou P, Magras I, Astaras A, Bamidis PD (2020) Design of a Wearable Upper Body Rehabilitation Modality based on Kinematic & Electromyography data. In: SAN2020 Conference abstract book, ISBN: 978-960-243-721-6 oral presentation SAN 2020 – Society of Applied Neurosciences 2020 Conference, Thessaloniki, Greece, 17-17-20/9/2020

Papastergiou V, **Mitsopoulos K**, Arfaras G, Terzopoulos N, Pandria N, Athanasiou A, Magras I, Astaras A, Bamidis PD (2020) Using Electrical Stimulation for Post-Injury Rehabilitation and Improvement of Motor Function. In: SAN2020 Conference abstract book, ISBN: 978-960-243-721-6 poster presentation SAN 2020 – Society of Applied Neurosciences 2020 Conference, Thessaloniki, Greece, 17-17-20/9/2020

Mitsopoulos K, Papastergiou V, Terzopoulos N, Arfaras G, Pandria N, Athanasiou A, Magras I, Astaras A, Bamidis PD (2020) Review on Sensorimotor Neural Rehabilitation Technologies. In: SAN2020 Conference abstract book, ISBN: 978-960-243-721-6 poster presentation SAN 2020 – Society of Applied Neurosciences 2020 Conference, Thessaloniki, Greece, 17-17-20/9/2020

Abstracts & presentations in other international conferences

Athanasiou A, Antoniou A, Pandria A, **Mitsopoulos K**, Papastergiou V, Xygonakis I, Terzopoulos G, Arfaras G, Magras I, Foroglou N, Astaras A, Klados MA, Bamidis PD (2019) Employing multimodal man machine interfaces for spinal cord injury rehabilitation. EANS Annual Meeting 2019, Dublin, Ireland, 24-28/09/2019. e-poster and short oral presentation (EP12045), final program book p 48

Peer-reviewed article (submitted, under review)

Athanasiou A, **Mitsopoulos K,** Terzopoulos N, Papastergiou V, Arfaras G, Pandria N, Magras I, Astaras A, Bamidis PD (2020) Prototyping and proof-of-concept of a wearable robotic jacket integrating biosignal sensors and motor control units for neurorehabilitation.
Submitted in "Frontiers in Robotics and AI"
Research Topic: Interfacing Humans and Machines for Rehabilitation and Assistive Devices