

Georgios P. Kontoudis

Graduate Research Assistant
Department of Mechanical Engineering
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Advisor: Tomonari Furukawa
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Research interests: Robotics, Optimal Control, Motion Planning, and Compliant Mechanisms.

EDUCATION

PhD, Virginia Tech, USA *2016-Present*
Department of Mechanical Engineering
Advisor: Prof. Tomonari Furukawa
Co-advisor: Prof. Kyriakos G. Vamvoudakis
Current GPA: 4.0/4.0
Coursework: Advanced Experimental Robotics, Optimization Techniques, Bayesian Robotics, Cyber-Physical Systems & Distributed Control, Motion Planning Analysis, Nonlinear Systems Theory
Diploma (MSc), National Technical University of Athens, Greece *2012-2016*
School of Mechanical Engineering
Advisor: Prof. Kostas J. Kyriakopoulos
Co-advisor: Prof. Minas Liarokapis
Grade: 7.76/10 (*top 20%*)
BSc, Piraeus University of Applied Sciences, Greece *2005-2010*
Department of Mechanical Engineering

RESEARCH EXPERIENCE

Graduate Research Assistant *May 2017 - Present*
Computational Multiphysics Systems Laboratory
School of Mechanical Engineering, Virginia Tech, USA
Member & Research Associate *September 2014 - Present*
The OpenBionics Initiative
Research Assistant *April 2014 - March 2016*
Control Systems Laboratory
School of Mechanical Engineering, National Technical University of Athens, Greece

TEACHING EXPERIENCE

Graduate Teaching Assistant *August 2016 - May 2017*
School of Mechanical Engineering, Virginia Tech, USA
➤ Lectured 80 students in a senior level, control systems lab. *Fall 2016*
➤ Guided 20 students in a series of 8 junior level, mechanical engineering labs. *Spring 2017*

AWARDS & HONORS

NTUA Thomaideion Award *Greece 2016*
Hackaday Prize, 2nd place (among 900 projects) *USA 2015*
Robotdalen Innovation Award, 1st place *Sweden 2015*
IEEE/RAS Student Travel Award (IROS) *Germany 2015*

PROFESSIONAL EXPERIENCE

Senior Mechanical Engineer

March 2016 - June 2016

Heliix Inc., Athens, Greece

➤ Worked on product design & development of a waste heat recovery device.

Site Supervisor

September 2013 - August 2015

Sychem S.A., Athens, Greece

➤ Provided guidance to industrial maintenance crew of 6 people for a desalination plant.

Mechanical Engineer

October 2010 - September 2013

Sychem S.A., Athens, Greece

➤ Monitored and commissioned desalination plants.

Aircraft Maintenance Engineer Trainee

May 2008 - January 2010

Olympic Aviation, Athens, Greece

➤ Performed engineering work of maintenance and modifications on aircrafts.

PUBLICATIONS

Referred Journal Publications

[1] **George P. Kontoudis**, Minas Liarokapis, Kyriakos G. Vamvoudakis, and Tomonari Furukawa “A Modular Actuation Mechanism for Adaptive Robotic Fingers,” *IEEE Robotics and Automation Letters (RAL)*, 2018. (submitted)

Referred Conference Publications

[3] **George P. Kontoudis** and Kyriakos G. Vamvoudakis, “RRT-Q: An Online Motion Planning Framework with Q-Learning,” *IEEE Conference on Decision and Control (CDC)*, 2018. (submitted)

[2] Kyriakos D. Tsoukalas, **George P. Kontoudis**, and Kyriakos G. Vamvoudakis, “Active-Bayesian Learning for Cooperation Connectivity in Dynamic Cyber-Physical-Human Systems,” *IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL)*, Honolulu, USA, 2017. (invited paper)

[1] **George P. Kontoudis**, Minas Liarokapis, Agisilaos G. Zisimatos, Christoforos I. Mavrogiannis and Kostas J. Kyriakopoulos, “Open-Source, Anthropomorphic, Underactuated Robot Hands with a Selectively Lockable Differential Mechanism: Towards Affordable Prostheses,” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Hamburg, Germany, 2015.

Other Publications

[2] **George P. Kontoudis**, Minas Liarokapis, Agisilaos G. Zisimatos, Christoforos I. Mavrogiannis and Kostas J. Kyriakopoulos, “How to Create Affordable, Anthropomorphic, Light-Weight Prosthetic Hands,” *Control Systems Lab, School of Mechanical Engineering, National Technical University of Athens*, Athens, Greece, October 2015.

[1] Agisilaos G. Zisimatos, Minas Liarokapis, Christoforos I. Mavrogiannis, **George P. Kontoudis** and Kostas J. Kyriakopoulos, “How to Create Affordable, Modular, Light-Weight, Underactuated, Compliant Robot Hand,” *Control Systems Lab, School of Mechanical Engineering, National Technical University of Athens*, Athens, Greece, January 2015.

Theses

[1] **George P. Kontoudis** “Design and Development of an Underactuated, Anthropomorphic Robot Hand,” *Diploma Thesis, National Technical University of Athens (NTUA)*, Athens, Greece, March 2016. (In Greek)

SERVICE ACTIVITIES

Reviewer

- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2018
- IEEE International Conference on Robotics and Automation (ICRA) 2018
- American Control Conference (ACC) 2018
- International Journal of Advanced Robotic Systems (IJARS) 2015 - 2016

SKILLS

Languages: English, Greek(native)

Operating Systems: Linux, ROS, Windows

Design and Simulation Software: Solidworks, AutoCAD, ANSYS, Slic3r, ProCAST, PSpice, Cura

Programming: Python, C/C++, MATLAB, HTML/CSS, \LaTeX

Other Skills: Laser cutting, 3D printing

MEMBERSHIPS & SOCIETIES

Memberships

IEEE - Student Member

2015 - Present

ASME - Student Member

2016 - Present

Societies

IEEE - Robotics and Automation Society (RAS)

2015 - Present

IEEE - Control Systems Society (CSS)

2017 - Present