

# George P. Kontoudis

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[www.georgekontoudis.com](http://www.georgekontoudis.com) ◊ Updated: March 26, 2018

## RESEARCH INTERESTS

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My research interests lie in improving the dexterity of robotic devices that operate in unstructured environments, focusing on online motion planning, exo-arm/hand assistive devices, bio-inspired compliant mechanisms, and optimal control.

## EDUCATION

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**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

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**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

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**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

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

## PROFESSIONAL EXPERIENCE

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### Senior Mechanical Engineer

Heliix Inc., Athens, Greece

March 2016 - June 2016

- Worked on the product design & development of a waste heat recovery device

### Site Supervisor

Sychem S.A., Athens, Greece

September 2013 - August 2015

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

### Mechanical Engineer

Sychem S.A., Athens, Greece

October 2010 - September 2013

- Monitored and commissioned desalination plants

### Aircraft Maintenance Engineer Trainee

Olympic Aviation, Athens, Greece

May 2008 - January 2010

- Performed engineering work of maintenance and modifications on aircrafts

## PUBLICATIONS

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### Referred Journal Publications

- [J1] **George P. Kontoudis**, Minas Liarokapis, Kyriakos G. Vamvoudakis, and Tomonari Furukawa “A Modular Actuation Mechanism for Adaptive Robotic Fingers,” *IEEE Robotics and Automation Letters (RA-L)*, 2018. (*submitted*)

### Referred Conference Publications

- [C1] **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*)
- [C2] 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**)
- [C3] **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

- [O1] **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, National Technical University of Athens*, Athens, Greece, October 2015.
- [O2] 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, National Technical University of Athens*, Athens, Greece, January 2015.

### Theses

- [T1] **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)

## TALKS & PRESENTATIONS

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- “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.

## SERVICE ACTIVITIES

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

## SKILLS

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<b>Languages</b>	English, Greek(native)
<b>Operating Systems</b>	Linux, ROS, Windows
<b>Design and Simulation Software</b>	Solidworks, AutoCAD, ANSYS, Slic3r, ProCAST, PSpice, Cura
<b>Programming</b>	Pyhton, C/C++, MATLAB, HTML/CSS, $\LaTeX$
<b>Other Skills</b>	Laser cutting, 3D printing

## MEMBERSHIPS & SOCIETIES

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### 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