

Konstantinos Chatzilygeroudis

Curriculum Vitae

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In a glance

Current Position	Doctoral Researcher at Inria Nancy - Grand Est , France
Education	PhD Candidate in Robotics/Machine Learning
Honors	Ranked in top 5% at Computer Science and Engineering 2014 Graduation
Experience	Google Summer of Code Intern for Open Source Robotics Foundation
Research Keywords	Robot Learning, Evolutionary Robotics, Machine Learning, Evolutionary Computation

Education

October 2015–present	PhD in Robotics and Machine Learning , <i>University of Lorraine - Inria Nancy (LARSEN Team)</i> , France.
September 2016	Gaussian Process and Uncertainty Quantification Summer School , <i>University of Sheffield</i> , UK. <i>Organizers:</i> Javier Gonzalez, Richard Wilkinson, Jeremy Oakley, Neil Lawrence, Sheffield ML Group
2009–2014	Diploma of Computer Science and Engineering , <i>University of Patras</i> , Greece, <i>GPA – 8.25/10</i> . Specialized in Artificial Intelligence, Robotics, Software Engineering and Computer Graphics - Top 5%
2010–Today	Online Courses , <i>Coursera</i> , <i>edX</i> , <i>Udacity</i> . I have attended and completed over 15 online courses covering a very broad range of topics, including Software Engineering, Artificial Intelligence, Robotics, Control Theory, Machine Learning, Game Theory, Digital Signal Processing, e.t.c.
2006–2009	High School , <i>G.E.L. Kato Kastritsiou</i> , Patras, Greece, <i>GPA – 19.3/20</i> . Specialized in Mathematics/Physics

Experience

Vocational

October 2015–present	Doctoral Researcher , <i>Inria (LARSEN Team)</i> , Nancy, France. Research Topic: Diagnosis-free Damage Recovery in Robotics with Machine Learning and Evolutionary Computation Funding: ERC "ResiBots" Project Supervisor: Jean-Baptiste Mouret
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- January–September 2015 **Computer/Software Engineer**, *Institute of Language and Speech Processing*, Athens, Greece, Scholarship.
Computer/Software Engineer at Institute for Language and Speech Processing, Athens. I was market researching and setting up a laboratory for multi-modal human-computer interaction based on expressive speech synthesis (robots, avatars, motion capture systems, microphone arrays, e.t.c.). My main duties involved searching for available hardware and selecting the most appropriate given specific user/scientific cases. I was, also, involved in integrating *Innoetics'* software into modules of the humanoid robot NAO and creating the infrastructure for easy code re-use.
- May–August 2015 **Google Summer of Code 2015**, *Open Source Robotics Foundation*.
As a GSoC 2015 intern, I focused on adding more features to the core library of the *Ignition Robotics Transport Library*. The main tasks involved code restructuring using C++11 features and enabling easy code re-use and enhancing modularity. I was also involved in creating some command line tools for the library.
- March–June 2015 **Intern**, *Bit My Job*, Patras, Greece.
During my internship at Bit My Job I developed a framework for Tablet (Android) to Server (Java) communication for live-scoring purposes in shooter tournaments. Also, I created several websites using PHP, Joomla or Wordpress. My internship had a duration of 3 months.
- Miscellaneous**
- Nov–Dec 2013 **Programmer**, *Laboratory for Manufacturing Systems & Automation*, University of Patras, Greece.
Worked on CAPP 4 SMEs European Project. I was developing 3D/2D simulation (using Java and OpenGL) and a Web Application (using Ruby on Rails).
- July 2010–June 2015 **Coach**, *Table Tennis Academy "Anagennisi Patron"*, Rion, Greece.
I was the head coach of the Table Tennis Academy "Anagennisi Patron".

Publications

Peer-Reviewed Journals

- 2018 **Reset-free Trial-and-Error Learning for Robot Damage Recovery**, *Konstantinos Chatzilygeroudis, Vassilis Vassiliades, Jean-Baptiste Mouret*, Robotics and Autonomous Systems.
- 2017 **Using Centroidal Voronoi Tessellations to Scale Up the Multi-dimensional Archive of Phenotypic Elites Algorithm**, *Vassilis Vassiliades, Konstantinos Chatzilygeroudis, Jean-Baptiste Mouret*, IEEE Transactions on Evolutionary Computation.

Peer-Reviewed Conferences

- Feb 2018 **Alternating Optimisation and Quadrature for Robust Control**, *Paul Supratik, Konstantinos Chatzilygeroudis, Kamil Ciosek, Jean-Baptiste Mouret, Michael A. Osborne and Shimon Whiteson*, Proceedings of the Thirty-Second AAAI Conference on Artificial Intelligence (AAAI 2018), New Orleans, Louisiana, USA.
- Sept 2017 **Black-Box Data-efficient Policy Search for Robotics**, *Konstantinos Chatzilygeroudis, Roberto Rama, Rituraj Kaushik, Dorian Goepp, Vassilis Vassiliades, Jean-Baptiste Mouret*, Proceedings of the International Conference on Intelligent Robots and Systems (IROS), Vancouver, BC, Canada.
- July 2017 **Comparing multimodal optimization and illumination**, *Vassilis Vassiliades, Konstantinos Chatzilygeroudis, Jean-Baptiste Mouret*, Proceedings of the Genetic and Evolutionary Computation Conference (GECCO) (Poster-only papers), Berlin, Germany.

- May 2015 **Human robot collaboration for folding fabrics based on force/RGB-D feedback**, *Panagiotis Koustoumpardis, Konstantinos Chatzilygeroudis, Aris Synodinos, Nikos Aspragathos*, Proceedings of the 24th International Conference on Robotics in Alpe-Adria-Danube Region, Bucharest, Romania, Pages: 235-243.

Peer-Reviewed Workshops

- July 2017 **20 Years of Reality Gap: a few Thoughts about Simulators in Evolutionary Robotics**, *Jean-Baptiste Mouret, Konstantinos Chatzilygeroudis*, Proceedings of the International Workshop "Simulation in Evolutionary Robotics" at the Genetic and Evolutionary Computation Conference (GECCO).
- July 2017 **A comparison of illumination algorithms in unbounded spaces**, *Vassilis Vassiliades, Konstantinos Chatzilygeroudis, Jean-Baptiste Mouret*, Proceedings of the International Workshop "Measuring and Promoting Diversity in Evolutionary Algorithms" at the Genetic and Evolutionary Computation Conference (GECCO).
- Dec 2016 **Safety-Aware Robot Damage Recovery Using Constrained Bayesian Optimization and Simulated Priors**, *Vaios Papaspyros, Konstantinos Chatzilygeroudis, Vassilis Vassiliades, Jean-Baptiste Mouret*, BayesOpt 2016: Proceedings of the International Workshop on "Bayesian Optimization" at NIPS 2016.
- May 2016 **Towards semi-episodic learning for robot damage recovery**, *Konstantinos Chatzilygeroudis, Antoine Cully, Jean-Baptiste Mouret*, AILTA '16: Proceedings of the International Workshop "AI for Long-term Autonomy" at ICRA 2016.

Reviewer

- **ICRA** - *one of the top conferences in robotics*
- **RA-L** - *robotics and automation letters (journal)*
- **IJAIT** - *journal on artificial intelligence tools*
- **BayesOpt** - *international workshop on bayesian optimization (at NIPS)*
- **HFR** - *international workshop on human-friendly robotics*
- **IFAC** - *world congress on automatic control*
- **ReMAR** - *conference on reconfigurable mechanisms and robots*

Diploma Thesis

- Title *Navigation of Humanoid Robot Nao In Unknown Space With Dynamic Obstacles*
- Supervisors Professor Nikos Aspragathos & Professor Emmanouil Psarakis & PhDc Aris Synodinos
- Description This thesis dealt with all the fields that give the ability to humanoid robots to move autonomously in a previously unknown space. It was, mainly, a software development project with a brief bibliographic overview of the major algorithms and techniques in each individual field. The "small" humanoid NAO (from Aldebaran Robotics) was used for the experiments and ROS (Robot Operating System) as the programming framework.
- Grade 10/10
- Video **NAO Walking in Gazebo:** <https://www.youtube.com/watch?v=xPg7cal26Z4>
- Code https://github.com/costashatz/nao_dcm

Honors & Awards

- December 2014 **Computer Engineering and Informatics Department Graduation.**
Ranked **9th with GPA 8.25/10** amongst 250 students that graduated from the Computer Engineering and Informatics Department of University of Patras in 2014.
- August 2009 **Greek National Exams - Admission Exams.**
Ranked **1st in admission exams** for the Computer Engineering and Informatics Department of University of Patras among 250 students who succeeded.
- May 2010 **Microsoft Imagine Cup Competition.**
Ranked among the **150 best teams** with team TTD (as a game designer/developer) at the Game Development part of the International "Imagine Cup 2010" competition (organized by Microsoft) with the project/game *Spring*.

Skills

- Intermediate Ruby, Screw Theory, XNA, DirectX10, OpenGL, MATLAB/Octave, MVC Web Development with Ruby on Rails or PHP, \LaTeX , Javascript/jQuery, Android, HTML5/CSS
- Advanced C/C++, Robotics Operating System (ROS), Java, C#, Python, Object Oriented Design & Programming, Game-Graphics Programming, Math for 2D/3D Graphics

Personal Data

- Place/Date of Birth Nottingham, UK | 5 February 1991
- Citizenship Greek
- Marital Status Married
- Address Nancy, France
- Phone +33 610466287
- Website <http://costashatz.github.io/>
- E-mail konstantinos.chatzilygeroudis@inria.fr,
costashatz@gmail.com
- Google Scholar Konstantinos Chatzilygeroudis (*user=tnf6B-EAAAAJ*)
- GitHub costashatz
- Bitbucket costashatz
- Linked-In konstantinoschatzilygeroudis

Languages

- Greek **Native**
- English **Full professional proficiency** *Fluent both in oral and written (C2)*
- French **Limited working proficiency** *Basic oral and written skills (B2)*

Interests

- Artificial Intelligence
- Machine Learning
- Table Tennis
- Robotics
- Programming
- Drawing