

Leonardo Giannantoni

Curriculum Vitae

✉ leonardo.giannantoni@polito.it
in [l-giannantoni](#)
[leonardogian](#)
ID 0000-0002-2741-0160

Education

- 2021 – 2024 **PhD in Computer and Control Engineering**, *Polytechnic University of Turin*.
Multi-Agent Deep Reinforcement Learning for complex systems design.
- 2014 – 2016 **MSc in Computer Engineering**, *Polytechnic University of Turin, 108/110*.
Thesis: *Development of algorithms and tools for classification of biological data using ncRNA*.

Work experience

- 2020 – now
Oct. **Research engineer**, *Polytechnic University of Turin & culturā regenerating systems*.
 - Design and development of a flexible multipurpose co-simulation framework, and of a pipeline for ontogenesis simulation and generation of optimized biofabrication protocols (python).
 - Design and development of a hierarchical Petri nets simulator (python).
 - Design and development of BiSDL2 language and compiler, for high-level descriptions of biological systems and their translation to Petri nets (python, antlr4).
- 2020 – 2020
Jul. Sep. **Research engineer**, *University of Turin & Candiolo Cancer Institute - IRCCS*.
Design and development of a Computer Aided Diagnosis (CAD) system for identification of prostate cancer based on MRI segmentation (python, ITK, ML).
- 2019 – 2020 **Freelance programmer**, *self-employed*.
 - Aircraft modelling and simulation (C).
 - Speaker recognition and automatic subtitles synchronization (python, ML).
- 2018 – 2019 **Teaching assistant**, *Polytechnic University of Turin*.
C++ laboratory (Programmazione di sistema MSc course)
- 2016 – 2019 **Research assistant**, *Polytechnic University of Turin*.
 - Machine learning techniques for large-scale visual and spatio-temporal data analysis.
 - Big Data and Machine Learning techniques for network monitoring and analysis.
- 2014 – 2017 **Peer tutor**, *Polytechnic University of Turin*.
Python programming, Formal languages and compilers, Database management systems, Computer architectures, Distributed programming, Signal analysis and processing, Computer networks.

Publications

- 2022 **L. Giannantoni**, R. Bardini, S. Di Carlo. *A methodology for co-simulation-based optimization of biofabrication protocols*. bioRxiv preprint, 2022.
- 2017 S. Traverso, M. Trevisan, **L. Giannantoni**, M. Mellia, H. Metwalley. *Benchmark and Comparison of Tracker-blockers: Should You Trust Them?*. Traffic Monitoring and Analysis workshop (TMA), Dublin, Ireland, 21-23 June 2017., [code repository](#).

Certifications

- 2016 **IELTS Academic**, *British Council*.
8.0 (European Level C1/C2). Reference number 16IT008240GIAL010A.

Honors and awards

- 2019 **Scholarship award** (5000 EUR), 2nd level Specializing Master's Programme in "SpacE Exploration and Development Systems" (SEEDS). *Italian Space Agency*.

- 2017 3 years PhD scholarship award (125000 USD). *Marie Skłodowska-Curie Actions - European Commission*.
- 2016 3 years PhD scholarship award (55000 USD). *Italian Ministry of Education, University and Research*.
- 2015 [Reverse engineering contest "Il calendario meccanico universale"](#). *Seat & Polytechnic University of Turin*.

Other courses and qualifications

- 2022 **Fundamentals of Reinforcement Learning**, *University of Alberta & Alberta Machine Intelligence Institute*, [NXX4XWUEUMKW](#).
- 2020 **Mathematics for Machine Learning**, *Imperial College London*, [8NNUE76VYVD2](#).
- 2020 **Deep Learning Specialization**, *deeplearning.ai*, Coursera.
- 2020 **Data science**, *Johns Hopkins University*, Coursera.
- 2017 **Convolutional Neural Networks for Visual Recognition**, *Stanford University*, online.
- 2017 **Game Theory**, *Stanford University & The University of British Columbia*, Coursera.
- 2016 – 2017 **Spanish language**, *Polytechnic University of Turin*.
- 2016 **Machine Learning**, *Stanford University*, Coursera.
- 2016 **Writing scientific papers in English**, *Polytechnic University of Turin*.
- 2015 **Bioinformatics**, *UC San Diego*, Coursera.
- 2005 – 2007 **Medical School**, *Università degli Studi dell'Aquila*.

Technical skills

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|-----------------------|--------------------------------------|
| ●●●● Machine Learning | ●●●● scikit-learn |
| ●●●● Deep Learning | ●●●● ITK, simpleITK |
| ●●●● Computer vision | ●●●● bash, sed, AWK |
| ●●●● python | ●●●● L ^A T _E X |
| ●●●● C | ●●●● GNU/Linux |
| ●●●● C++ | ●●●● git, svn |
| ●●●● Java | |

Soft skills

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|---------------------------------------|----------------------------|
| ○ Machine ethics | ○ Science research writing |
| ○ Responsible research and innovation | ○ Problem solving |

Language skills

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|--------------|---------------------------|
| ●●●● Italian | <i>C2 (native)</i> |
| ●●●● English | <i>C1/C2 (proficient)</i> |
| ●●●● Spanish | <i>B2 (independent)</i> |

Extra-Curricular Activities

- 2017 – now **Chorister with PoliEtnico choir**, *Polytechnic University of Turin*.
- 2006 – now **Volunteer editor**, *Wikimedia Foundation*.
- 2008 – 2012 **Volunteer, Board of Trustees member**, *Maurice GLBTQ, Turin*.

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