

# Erwan Lecarpentier

PhD

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## Education

**PhD in Computer Science** 2016–2020

*University of Toulouse (France), ONERA (The French Aerospace Lab) and ISAE-SUPAERO (Institut Supérieur de l'Aéronautique et de l'Espace). Reinforcement Learning in Non-Stationary Markov Decision Processes, advised by Prof. Emmanuel Rachelson and Dr. Guillaume Infantes.*

**Exchange year** 2015–2016

*Graduate student, University of Stuttgart (Germany). Reinforcement Learning, Machine Learning, Robotics and Computer Vision.*

**French engineering school (~ Master's degree)** 2013–2015

*ISAE-SUPAERO (Institut Supérieur de l'Aéronautique et de l'Espace), ENSICA program, Toulouse (France). Control Theory, Optimization, Statistic, Applied Mathematics, Programming, Mechanical Engineering, Fluid Mechanics.*

**French preparatory class** 2011–2013

*Saint-Brieuc (France), A+. Leading to competitive exam for entry to Graduate Engineering Schools. Advanced theoretical Mathematics, Physics and Engineering Sciences.*

**Baccalaureate** 2009–2011

*Lamballe (France), A+ with distinction. Equivalent to A level, with specialization in Mathematics.*

## Experience

**Post-doc at REVA Team, University of Toulouse (France).** 2021–today

*Solving Atari games with interpretable Cartesian Genetic Programming with Hervé Luga, Sylvain Cussat-Blanc, and Dennis G. Wilson.*

**Visiting PhD student at Brown University, Providence (USA).** 2019  
(4 months)

*Research project in Lifelong Reinforcement Learning, with Prof. Michael L. Littman and PhD students David Abel, Kavosh Asadi, and, Yuu Jinnai.*

**Visiting graduate student at University of Stuttgart.** 2016

*Research internship in Reinforcement Learning, with Prof. Marc Toussaint, MLR (Machine Learning & Robotics Lab). Optimal control on a real-world robot; optimization using Reinforcement Learning algorithms (Policy Search, Bayesian Optimization, LSPI, etc.)*

**Research internship in Statistic, University of Toulouse (France), ENAC.** 2015  
(2 months)

*Statistical modelling of the air-travel market and airline behavior.*

## Publications

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**On Constrained Optimization in Differentiable Neural Architecture Search** 2021  
Kaitlin Maile, Erwan Lecarpentier, Hervé Luga, Dennis G. Wilson  
Submitted, 2021

**Lipschitz Lifelong Reinforcement Learning.**  
Erwan Lecarpentier, David Abel, Kavosh Asadi, Yuu Jinnai, Emmanuel Rachelson, and Michael L. Littman.  
*AAAI*, 2021.

**Non-Stationary Markov Decision Processes a Worst-Case Approach using Model-Based Reinforcement Learning.** 2019  
Erwan Lecarpentier and Emmanuel Rachelson.  
*NeurIPS*, 2019.

**Open Loop Execution of Tree-Search Algorithms.** 2018  
Erwan Lecarpentier, Guillaume Infantes, Charles Lesire, and Emmanuel Rachelson.  
*IJCAI*, 2018.

**Empirical evaluation of a Q-Learning Algorithm for Model-free Autonomous Soaring.** 2017  
Erwan Lecarpentier, Sebastian Rapp, Marc Melo, and Emmanuel Rachelson.  
*JFPDA*, 2017.

## Teaching Experience

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Primary Instructor	Reinforcement Learning	2020-2021
	Machine Learning	2019-2021
	Algorithms Complexity	2018-2019
	Python Programming	2019
Teaching Assistant	Optimization	2018-2019
	Graph Theory	2019

## Awards

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**PhD thesis award** – AFIA (French Association for Artificial Intelligence) 2021  
**PhD thesis award** – Fondation ISAE-SUPAERO, University of Toulouse 2020

## Languages

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French	Mother tongue
English	Proficient
German (B1+)	Enthusiastic beginner
Julia, Python, C++, LaTeX, PGF/TikZ	
	Proficient