

Erwan Lecarpentier

PhD

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Education

PhD in Computer Science 2016–2020

ONERA (The French Aerospace Lab) and ISAE-SUPAERO
(Institut Supérieur de l'Aéronautique et de l'Espace), Toulouse (France).
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

Postdoc at REVA Team, Université de 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 Dr. 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, ENAC, Toulouse (France). 2015
(2 months)
Statistical modelling of the air-travel market and airline behavior.

Publications

- Lipschitz Lifelong Reinforcement Learning.** 2021
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

- | | | |
|--------------------|---------------------------------------|-----------|
| Primary Instructor | Algorithms Complexity, ISAE-SUPAERO. | 2018-2019 |
| | Python Programming, ISAE-SUPAERO. | 2019 |
| Teaching Assistant | Reinforcement Learning, ISAE-SUPAERO. | 2021 |
| | Machine Learning, ISAE-SUPAERO. | 2018-2019 |
| | Optimization, ISAE-SUPAERO. | 2019 |
| | Graph Theory, ISAE-SUPAERO. | |

Awards

- PhD thesis award** – Fondation ISAE-SUPAERO 2020
- PhD thesis award** – AFIA (Association Française pour l'Intelligence Artificielle) 2021

Languages

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|--------------|----------------------------|
| French | Mother tongue |
| English | Proficient working English |
| German (B1+) | Enthusiastic beginner |

Trivia

- Playing guitar and bass guitar**, member of a music band. 2013–
- President of the student association N6Kn'Sat.** 2014–2015
Student project: development, conception and launching of mini-satellites; collaboration with students of the Aerospace School SSAU (Russia).
- Responsible for communication** in the student office of ISAE-SUPAERO. 2014
- Graphic designer** for the French air show "Airexpo", Toulouse (France). 2014