

# Erwan Lecarpentier

*PhD student*

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## Education

**PhD student** 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.

**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

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

Research project in Lifelong Reinforcement Learning, with Prof. Michael L. Littman and PhD students David Abel, Kavosh Asadi, and Yuu Jinnai. (4 months)

**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

Statistical modelling of the air-travel market and airline behavior. (2 months)

## Publications

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### Lipschitz Lifelong Reinforcement Learning.

Erwan Lecarpentier, David Abel, Kavosh Asadi, Yuu Jinnai, Emmanuel Rachelson, and Michael L. Littman.  
*Submitted to ICML 2020.*

### Non-Stationary Markov Decision Processes a Worst-Case Approach using Model-Based Reinforcement Learning.

Erwan Lecarpentier and Emmanuel Rachelson.  
*NeurIPS 2019.*

### Open Loop Execution of Tree-Search Algorithms.

Erwan Lecarpentier, Guillaume Infantes, Charles Lesire, and Emmanuel Rachelson.  
*IJCAI, 2018.*

### Empirical evaluation of a Q-Learning Algorithm for Model-free Autonomous Soaring.

Erwan Lecarpentier, Sebastian Rapp, Marc Melo, and Emmanuel Rachelson.  
*JFPDA, 2017.*

## Teaching Experience

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Primary Instructor

**Algorithms Complexity**, ISAE-SUPAERO.  
**Python Programming**, ISAE-SUPAERO.

Teaching Assistant

**Machine Learning**, ISAE-SUPAERO.  
**Optimization**, ISAE-SUPAERO.  
**Graph Theory**, ISAE-SUPAERO.

## Languages

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French

*Mother tongue*

English (TOEFL 553, 2013)

*Proficient working English*

German (B1+)

*1 year of exchange in Stuttgart*

## Trivia

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**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 ENSICA. Creation of communication media; management of events.

**2014**

**Graphic designer** for the French air show "Airexpo", Toulouse (France).

**2014**