

Aliaume Lopez

Curriculum Vitae

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📄 <http://www.lsv.fr/~lopez/>

DOCTORAL RESEARCH

“Well-quasi-orderings and data-centric dynamic systems”

I study the theory of well-quasi-orderings and their applications to Finite and Algorithmic Model Theory. When combined with logics, wqo theory lead me to study preservation theorems. When combined with topology, this lead me to the realm Noetherian spaces.

WORK EXPERIENCE

CURRENT, FROM SEPT 2019 (FT)

ENS Paris-Saclay, Université Paris Cité *PhD Student & Teaching Assistant*

Under the supervision of Jean Goubault-Larrecq and Sylvain Schmitz I study the theory of well-quasi-ordering and its generalisations, particularly regarding its usage in finite model theory and database theory. I have been a teaching assistant at ENS Paris-Saclay for bachelor students in computer science (L3 Programmation 1, M1 advanced complexity) and I am now a teaching assistant at Université de Paris in computer science (L2 Conduite de Projet, L3 Programmation Fonctionnelle, L3 Programmation Réseaux).

SEPT 2020 – JUN 2021 (FT)

Autorité de Sûreté Nucléaire *Chargé d’Affaires*

As part of the program “Entrepreneur d’Intérêt Général” I have been a fullstack developer for the French Authority of Nuclear Safety, in collaboration with Pierre-Étienne Devineau. I worked on the digital transition of this administration through the creation of an analysis tool allowing inspectors to leverage prior safety knowledge when planning inspections.

SEPT 2017 – JUN 2019 (PT)

Institution St Marie, Lycée Lakanal *Khôlleur de mathématiques*

Oral examiner at preparatory classes for “grandes écoles” in both MPSI and MP.

MARCH 2017 – JULY 2015 (FT)

University of Ljubljana *Internship*

Under the supervision of Dr. Alex K. Simpson I studied a generic metatheory of operational semantics, with applications to combinations of non-determinism and probabilities.

JUNE 2015 – JULY 2015 (FT)

University of Birmingham *Internship*

Under the supervision of Dr. Dan R. Ghica, I designed a syntax with binders to describe digital circuits in a categorical framework.

EDUCATION

- 2016-2019 **MPRI**
WITH HIGH HONOURS
Computer Science
ENS Cachan
- 2018 **Aggrégation de Mathématiques**
5^E
Mathematics
ENS Cachan
- 2017-2018 **Masters of Mathematics**
WITH HIGH HONOURS
Mathematics
ENS Cachan
- 2015-2016 **Bachelor of Computer Science**
WITH HIGH HONOURS
Computer Science
ENS Cachan
- 2015-2016 **Bachelor of Mathematics**
WITH HIGH HONOURS
Mathematics
ENS Cachan
- 2013-2015 **MPSI/MP***
WITH HIGH HONOURS
Mathematics and Physics
Lycée Joffres, Montpellier
- 2013 **A Levels**
WITH HIGH HONOURS
Scientific
Lycée Georges Pompidou, Castelneau-le-Lez

COMMUNICATIONS

- PRESENTATIONS CSL, 2020
CSL, 2017
- TALKS DAAL, 2022
GdT ACS, IRIF, 2021
ASV Day, IRIF, 2021
Séminaire au Vert, LMF, 2021
Highlights, 2021
- POSTS On the word topology, and beyond
September 20, 2020
[permanent link](#)
- REPORT Doctors and Public Administrations
September 3, 2021
[permanent link](#)
- DISCUSSION ADEPS, 2021

VALIDATED TRAINING

(100H)

- 12H **Langues étrangères et interculturelités**
ENS Paris-Saclay, France
- 12H **Ethics & STICS**
online
- 6H **Secnum Académie**
Sécurité informatique, bonnes pratiques
ANSSI, Paris, France
- 11H **Le Doct'ilien**
Médiation, communication, journalisme scientifiques
Université Paris-Saclay, France
- 9H **CARaDOC**
Définir son projet professionnel
online
-
- 25H **Journées du CIRM**
Feb 14 – Feb 18 2022
Logic, databases and complexity
CIRM, Marseille, France
- 25H **Dagstuhl**
Jan 31 – Feb 4 2022
Finite and Algorithmic Model Theory
Dagstuhl, Germany

PROJECTS AND RESPONSABILITIES

- FROM 2022 **Knowledge Ecosystem**
Maintainer
- FROM 2022 **Automata Seminar at IRIF**
Organiser
- FROM 2021 **IDeA**
Communication
- 2017-2019 **Pirat'ENS**
Secretary

COMPUTER SKILLS

- BEGINNER C++, Agda, PHP
- INTERMEDIATE C, Java, Scheme, React, Coq
- EXPERT Javascript, Unix, \LaTeX
Python, Haskell, OCaml
HTML, CSS

SUBMISSIONS

Jean Goubault-Larrecq, Simon Halfon, **Aliaume Lopez**. *Infinitary Noetherian constructions II. Transfinite words and the regular subword topology*. Submitted to *Colloquium Mathematicum* in 2022.

Aliaume Lopez. *Fixed Points and Noetherian Topologies*. Submitted to *FOSSACS* 2023.

Thomas Colcombet, Gaëtan Douéneau, **Aliaume Lopez**. *Z-polyregular functions*. Soon to be submitted to *LICS* 2023.

Sergio Abriola, Simon Halfon, **Aliaume Lopez**, Sylvain Schmitz, Philippe Schnoebelen, Isa Vialard. *Finitary Powerset Constructions*. Soon to be submitted.

PUBLICATIONS

Aliaume Lopez. *When Locality Meets Preservation*. *LICS* 2022: 46:1-46:14

Aliaume Lopez. *Preservation Theorems Through the Lens of Topology*. *CSL* 2021: 32:1-32:17

Aliaume Lopez, Alex K. Simpson. *Basic Operational Pre-orders for Algebraic Effects in General, and for Combined Probability and Nondeterminism in Particular*. *CSL* 2018: 29:1-29:17

Dan R. Ghica, Achim Jung, **Aliaume Lopez**. *Diagrammatic Semantics for Digital Circuits*. *CSL* 2017: 24:1-24:16

Dan R. Ghica, **Aliaume Lopez**. *A structural and nominal syntax for diagrams*. *QPL* 2017: 71-83