

Rémi Morvan

PH.D. STUDENT IN AUTOMATA THEORY

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Education

LaBRI, Université de Bordeaux

PH.D. IN COMPUTER SCIENCE

Under the supervision of Diego Figueira & Nathanaël Fijalkow, in LaBRI's Formal Methods and Models department.

since Sep. 2021

Bordeaux, France

École normale supérieure Paris-Saclay

NORMALIEN CIVIL-SERVANT

- Parisian Master of Research in Computer Science (*Univ Paris-Cité*)
- *Agrégation* of Mathematics & Master of Higher Education in Mathematics (*Univ. Paris-Saclay*)

Sep. 2017 - Aug. 2021

Cachan, France

Lycée Saint-Louis

UNDERGRADUATE STUDIES « *prépa* »

Majors in Mathematics and Physics.

Sep. 2015 - Aug. 2017

Paris, France

Research Experience

RESEARCH INTERNSHIPS & LONG VISITS

Uniwersytet Warszawski

RESEARCH VISIT

Four-week visit (two weeks in Feb. & two weeks in May), hosted by Nathanaël Fijalkow.

Feb. & May 2023

Warsaw, Poland

Pontificia Universidad Católica de Chile

RESEARCH VISIT

One-month visit, hosted by Pablo Barceló and Miguel Romero (Universidad Adolfo Ibáñez).

Oct. 2023

Santiago, Chile

IRIF, Université de Paris

MASTER 2 INTERNSHIP

Five-month internship, supervised by Thomas Colcombet and Sam van Gool, on *First-order separation over countable ordinals*.

Mar. – Aug. 2021

Paris, France

University of Warwick

MASTER 1 INTERNSHIP

Five-month internship, supervised by Marcin Jurdziński, on *Recursive algorithms for parity games*.

Mar. – Aug. 2019

Coventry, United Kingdom

CRISTAL, Université de Lille

BACHELOR INTERNSHIP

Six-week internship, supervised by Philippe Mathieu, on *Multi-agent systems in microeconomics*.

June – July 2018

Lille, France

ATTENDED EVENTS (SPECIALIZED LONG WORKSHOPS)

The Futures of Reactive Synthesis, Dagstuhl seminar

Sep. 2023

Discrete Mathematics and Logic, CIRM research school

Jan. 2023

Finite and Algorithmic Model Theory, Dagstuhl seminar

Feb. 2022

Teaching & Supervision

SUPERVISION

Arthur Gall

MASTER 1 INTERN

Three-month internship, co-supervised with Nathanaël Fijalkow, on probabilistic automata.

May – July 2023

Warsaw, Poland

COURSES

Bordeaux INP Enseirb-Matmeca

TEACHING ASSISTANT

Sep. 2023 – Aug. 2024

Bordeaux, France

Université de Bordeaux

TEACHING ASSISTANT

Sep. 2021 – Aug. 2023

Bordeaux, France

Total: 129h.

- Programming Project in C (Bachelor 2, 2022-2023, 32h)
- Automata Theory (Bachelor 3, 2022-2023, 32h)
- Computability and Complexity (Master 1, 2021-2022, 28h)
- Proofs & Logics (Bachelor 3, 2021-2022, 24h)
- Digital Literacy, (Bachelor 1, 2021-2022, 13h)

Lycée Saint-Louis

ORAL EXAMINATIONS IN MATHEMATICS

Sep. 2020 – July. 2021

Paris, France

Total: 59h. For first year *prépa* (~ bachelor) students.

Service

ASSOCIATIVE & ELECTORAL ENGAGEMENT

AFoDIB

PRESIDENT (DEC. 2022 – Nov. 2023)

SECRETARY (DEC. 2021 – Nov. 2022)

since Dec. 2021

Bordeaux, France

Association for Ph.D. students in Computer Science from Bordeaux.

Council of the STEM Department

PH.D. STUDENTS SUBSTITUTE REPRESENTATIVE

since June 2023

Université de Bordeaux

Council of the Doctoral School of Mathematics & Computer Science (EDMI)

PH.D. STUDENTS SUBSTITUTE REPRESENTATIVE

July. 2022 – June. 2023

Université de Bordeaux

La Cinquième Parallèle

TREASURER

Sep. 2018 – Mar. 2019

Cachan, France

LGBTIQ+ association for the ENS Paris-Saclay students.

SCIENTIFIC ENGAGEMENT

Games reading group

ORGANIZER

Sep. 2022 – June 2023

Bordeaux, France

Weekly two-hour reading group on games, automata & logic in LaBRI.

EDBT-Intended Summer School 2022 [WEBPAGE](#)

WEBSITE DESIGN & STUDENT VOLUNTEER

July 2022

Softwares

knowledge-clustering [GITHUB](#)

since Feb. 2022

Command-line tool facilitating the use of the \LaTeX package knowledge.

Written in Python and co-maintained with Aliaume Lopez & Thomas Colcombet.

atomPython [GITHUB](#)

2018 – 2019

A platform for simulating double-auction markets to study the behaviour of artificial agents.

Written in Python; supervised by Philippe Mathieu.

Publications

JOURNAL ARTICLES

A Deterministic Behaviour for Realistic Price Dynamics

2019

PHILIPPE MATHIEU, RÉMI MORVAN [DOI](#)

Physica A: Statistical Mechanics and its applications. Elsevier

CONFERENCE PROCEEDINGS

Separating Automatic Relations

2023

PABLO BARCELÓ, DIEGO FIGUEIRA, RÉMI MORVAN [FULL VERSION](#)

48th International Symposium on Mathematical Foundations of Computer Science (MFCS)

Approximation and Semantic Tree-Width of Conjunctive Regular Path Queries

2023

DIEGO FIGUEIRA, RÉMI MORVAN [DOI](#) [FULL VERSION](#)

26th International Conference on Database Theory (ICDT)

First-order Separation over Countable Ordinals

2022

THOMAS COLCOMBET, SAM GOOL, RÉMI MORVAN [DOI](#) [FULL VERSION](#)

25th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS)

Universal Algorithms for Parity Games and Nested Fixpoints

2022

MARCIN JURDZINSKI, RÉMI MORVAN, K. S. THEJASWINI [DOI](#) [FULL VERSION](#)

Principles of Systems Design - Essays Dedicated to Thomas A. Henzinger on the Occasion of His 60th Birthday

Presentations

Most slides are available on my website.

Structure meets Power '23, Algebras for regular relations, *20min, online*

25 June 2023

ICDT '23, Approximation and semantic tree-width of conjunctive regular path queries, *25min, online*

29 Mar. 2023

Verification seminar (IRIF), Universal algorithms for parity games and nested fixpoints, *50min, Paris*

13 Feb. 2023

MoVe seminar, Approximation and semantic tree-width of conjunctive regular path queries, *50min, Marseille*

12 Jan. 2023

LINKS seminar, Approximation and semantic tree-width of conjunctive regular path queries, *50min, Lille*

9 Dec. 2022

M2F seminar, Approximation and semantic tree-width of conjunctive regular path queries, *50min, Bordeaux*

6 Dec. 2022

Journée M2F, Approximation and semantic tree-width of conjunctive regular path queries, *8min, Bordeaux*

7 Oct. 2022

Highlights '22, Quantitative algebraic characterisations on truly infinite words, *8min, Paris*

1 July 2022

EJCIM '22, Quantitative algebraic characterisations on truly infinite words, *25min, Nice*

8 June 2022

FoSSaCS '22, First-order separation over countable ordinals, *25min, Munich*

5 Apr. 2022

ANR Delta 6th meeting, Separation over infinite words, *20min, online*

4 Jan. 2022

LX seminar, First-order separation over countable ordinals, *50min, Bordeaux*

7 Oct. 2021

Internship defense, Definability & separability of regular languages in first-order logic, *20min, Paris*

3 Sep. 2021

ANR Delta 5th meeting, Universal algorithms for parity games and nested fixpoints, *20min, Paris*

28 June 2021

Highlights '20, Universal algorithms for parity games and nested fixpoints, *5min, online*

16 Sep. 2020

Internship defense, Solving parity games, *20min, Cachan*

4 Sep. 2019