

Rémi Morvan

PH.D. STUDENT IN COMPUTER SCIENCE

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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.
ENS Ph.D. scholarship (Sep. 2021 – Aug. 2024) & funded by the PEPR SAIF project (Sep. 2024 – Aug. 2025).

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. 2022

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 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

Antoine Cuvelier

BACHELOR 3 INTERN (ENS ULM)

Bachelor thesis and six-week internship, on homomorphism problems on automatic structures.

June – July 2024

Bordeaux, France

Arthur Gall

MASTER 1 INTERN (ENS LYON)

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

May – July 2023

Warsaw, Poland

COURSES

Bordeaux INP Enseirb-Matmeca

TEACHING ASSISTANT

- Database Management Systems — Master 1, 2023–24, 20h
- Internship defences — Bachelor 3, 2023–24, 2h

Sep. 2023 – Aug. 2025

Bordeaux, France

Université de Bordeaux

TEACHING ASSISTANT

- Machine Learning & Deep Learning — Master 1 (AI track), 2023–24.
9h lecture + 9h exercise session + creation of Jupyter notebooks. New course.
- Programming Project (in C) — Bachelor 2, 2022–23, 32h
- Automata Theory — Bachelor 3, 2022–23, 32h
- Computability and Complexity — Master 1, 2021–22, 28h
- Proofs & Logics — Bachelor 3, 2021–22, 24h
- Digital Literacy — Bachelor 1, 2021–22, 13h

Sep. 2021 – Aug. 2024

Bordeaux, France

Lycée Saint-Louis

ORAL EXAMINATIONS IN MATHEMATICS

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

Sep. 2020 – July 2021

Paris, France

Service

ASSOCIATIVE & ELECTORAL ENGAGEMENT

LaBRI's scientific council

MEMBER

since Dec. 2023

LaBRI

AFoDIB

PRESIDENT (DEC. 2022 – NOV. 2023)

SECRETARY (DEC. 2021 – NOV. 2022)

MEMBER OF THE BOARD (SINCE DEC. 2023)

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

since Dec. 2021

Bordeaux, France

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

LGBTIQ+ association for the ENS Paris-Saclay students.

Sep. 2018 – Mar. 2019

Cachan, France

SCIENTIFIC ENGAGEMENT

Highlights of Logic, Games and Automata 2024

MEMBER OF THE ORGANIZING COMMITTEE

SafeToc counsellor and co-organizer of the workshop on algebraic methods in automata theory.

Sept. 2024

Bordeaux, France

ATLAS 24 (Workshop on Automata, Transducers, Logic, Algebras & Semigroups)

CO-ORGANIZER

First edition of the workshop. 45 participants, 16 talks including two invited ones (Sreejith A V and Christof Löding).

Co-organized with Thomas Colcombet, Hugo Bazille and Uli Fahrenberg.

Apr. 2024

Rennes, France

LX Seminar (Logical foundations of computing)

CO-ORGANIZER

Bimonthly one-hour seminar of the LX team. Co-organized with Guillaume Lagarde (Sep. 2023 – July 2024) and Laurent Bienvenu (Sept. 2024 –).

since Sep. 2023

Bordeaux, France

Games reading group

ORGANIZER

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

Sep. 2022 – June 2023

Bordeaux, France

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)

Selected for LMCS special issue.

First-order Separation over Countable Ordinals

2022

THOMAS COLCOMBET, SAM VAN 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

PREPRINTS

The Algebras for Automatic Relations

2024

RÉMI MORVAN [FULL VERSION](#)

Semantic Tree-Width and Path-Width of Conjunctive Regular Path Queries

2023

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

MISCELLANEOUS

First-order separation of transfinite regular languages

2021

RÉMI MORVAN [DOI](#)

Internship report, École normale supérieure Paris-Saclay