

## EDUCATION

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- 2021 - PhD in theoretical computer science - Proof Nets: graphs, canonicity, formalization. Supervised by Olivier Laurent at École Normale Supérieure de Lyon (LIP, Plume team).
- 2019 - 2021 Master of fundamental computer science at École Normale Supérieure de Lyon, a top ranking French school giving a research-oriented diploma.
- 2017 - 2019 Student at École Centrale de Lyon, a top ranking French engineering school giving a multi-field diploma.  
Main subjects: Mathematics, Computer science, Systems Control, Civil Engineering, Mechanic of Deformable Solids, Fluids and Energy, English and Management.
- 2015 - 2017 Undergraduated intensive courses in Mathematics and Sciences with English to enter top French schools by a nation-wide competitive examination at Lycée Chateaubriand (classes préparatoires).
- 2015 High school diploma in Sciences with highest honours at Lycée Saint-Martin in Rennes (France).  
Main subjects: Mathematics, Physics, Biology, Philosophy, History, English.

## PRODUCTIONS

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### Published at a peer-reviewed international conference

FSCD 2023 *Type Isomorphisms for Multiplicative-Additive Linear Logic* with Olivier Laurent (48 pages).

### Presented at a peer-reviewed international workshop

TLLA 2023 *Sequentialization is as fun as bungee jumping* with Olivier Laurent, Lorenzo Tortora de Falco and Lionel Vaux Auclair (6 pages).

TLLA 2022 *Bottom-Up Sequentialization of Unit-Free MALL Proof Nets* with Olivier Laurent (8 pages).

### Submitted to a journal

LMCS *Type Isomorphisms for Multiplicative-Additive Linear Logic* with Olivier Laurent, revised and extended version of the paper with the same name of FSCD 2023, submitted after invitation (78 pages).

### Software Development

🔗 Formalizing in Coq the proof nets of multiplicative linear logic, available at [github.com/RemiDiG/proofnet\\_mll](https://github.com/RemiDiG/proofnet_mll) (work in progress).

### Talks

- 24/06/2024 *Around Yeo's theorem*, Groupe de travail of the Plume team, Lyon.
- 14/03/2024 *Retractions in Multiplicative Linear Logic*, Seminar Chocola, Lyon.
- 01/03/2024 *Retractions in Multiplicative Linear Logic*, Seminar of the group Mathematical Foundations of Computation, Bath.
- 29/11/2023 *Retractions for Multiplicative Linear Logic*, Days 2023 of the GT Scalp, Orléans.
- 04/07/2023 *Type Isomorphisms for Multiplicative-Additive Linear Logic*, FSCD 2023, Rome.
- 01/07/2023 *Sequentialization is as fun as bungee jumping*, TLLA 2023, Rome.
- 27/06/2023 *Proof theory and linear logic*, PhD student's seminar of LIP, Lyon.
- 15/05/2023 *A simple proof of sequentialization for MLL proof nets*, Groupe de travail of the Plume team, Lyon.
- 10/10 - 07/11/2022 *Type isomorphisms for Multiplicative-Additive Linear Logic*, Groupe de travail of the Plume team, Lyon.
- 31/07/2022 *Bottom-Up Sequentialization of Unit-Free MALL Proof Nets*, Linearity - TLLA 2022, Haifa.

## EXPERIENCES

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- 2022 Participation as a student in the Mathematical Components School and Workshop. I learnt about key principles and good practices of the SSReflect proof language and the Mathematical Components library for the proof assistant Coq.
- 2021 Master internship on the formalization in Coq of proof nets, supervised by Olivier Laurent at École Normale Supérieure de Lyon.  
In the Yalla library on linear logic, formally define proof nets and prove some of their main properties, in the multiplicative fragment.
- 2020 Master internship on “ $C_5$ -coloring of  $P_8$ -free graphs”, supervised by Paweł Rzażewski and Édouard Bonnet.  
Search for necessary and sufficient conditions for a graph without path of length 8 to be  $C_5$ -colorable. Bibliographic study on the methods used in similar cases, then adaptation.

2019	Internship at the insurance company AXA. Refactoring then improving a code for extracting information from databases for GAREAT (a group for reinsuring in case of terrorism). Use of SAS to manipulate data, in the complex framework of insurance rules.
2018 - 2019	École Centrale Lyon, research project about reinforcement learning, supervised by Alexandre Saïdi of the LIRIS laboratory. Study of reinforcement learning in a team of two, bibliographic research of the mainstream algorithms to find an optimal policy for a Markov decision scheme. Implementation in C++ and analyze of these algorithms in the case of a labyrinth containing rewards and punishments.
2018	One month-internship in Mottaz Industrie as a full-time workman in the automobile field. My duties included assembling and quality-checking.
2017 - 2018	AI programming in Python in a team of six in a project for implementing a board game (Pingouins) during a year, rewarded by the second prize Francis Leboeuf.

## TEACHING

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2023-2024	Supervisor for labs and tutorials in the Computer Science. Courses: Computer architecture (L2‡, 24h), Logic (L3‡, 32h).
2021-2023	Supervisor for labs and tutorials in the Computer Science. Courses: Compilation and program analysis (M1‡, 28h), Functional project(L3‡, 32h).

‡ École Normale Supérieure de Lyon

‡ Université Claude Bernard Lyon 1

## PRACTICAL SKILLS

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Languages	French (mother tongue), English (TOEFL & CAE), German and Japanese both at beginner level.
Programming	Coq, Ocaml, Python, Matlab, C++, SQL.
Tools	Git, L <sup>A</sup> T <sub>E</sub> X, Libre Office, Microsoft Office.