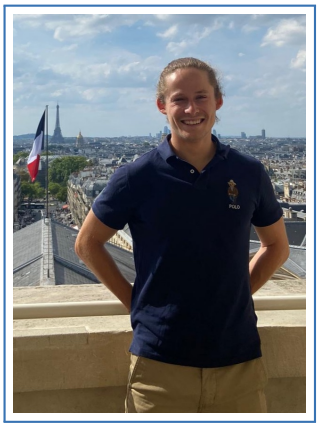

Félix Ridoux

Studies

2020–2024 **Diploma of ENS Rennes**, *École Normale Supérieure de Rennes*, France.
Highly selective research-oriented curriculum.

2023–2024 **Master 2 in Computer Science**, *Parisian Master of Research in Computer Science*, France.
Logic and formal methods.

2022–2023 **Prélab in Computer Science**, *École Normale Supérieure de Rennes*, France.
One year intership in two labs, INRIA Paris and IMDEA Software in Madrid, between the first and second years of Master.

2021–2022 **Master 1 in Computer Science**, *Exchange Student at Aarhus University*, Denmark.
Formal software verification, language-based security, cryptology, cryptological protocol theory, data-mining, system security.

2020–2021 **Bachelor 3 in Computer Science**, *École Normale Supérieure de Rennes*, France.
Functional programming, distributed algorithmic, formal logic, formal language theory, algorithmic, cryptology, computer architecture, system security, statistic, image processing, pedagogy.

2019–2020 **Bachelor 2 in Computer Science**, *University of Rennes*, France.
Maths, programming, networking, digital electronics, databases, computability, bio-informatics. *With highest honors*, *Valedictorian* (171 students).

2017–2019 **PCSI/PC Preparatory Classes**, *Lycée François Rabelais*, Saint-Brieuc, France.
2 years of intensive maths, physics and chemistry courses.

2014–2017 **High School**, *Lycée Sévigné*, Cesson-Sévigné, France.
Scientific major with mathematics specialization. *With honors*.

Experiences

Research internships

February–July 2023 **Research lab Internship**, *IMDEA Software Institute*, Supervisors : Dr. Alessio Mansutti & Dr. Niki Vazou.
The goal was to improve the type inference algorithm of Liquid Haskell in order to infer numeric constraints faster and more precisely. I was especially investigating how tools from algebraic program analysis could help to achieve that.

September–December 2022 **Research lab Internship**, *INRIA Paris*, Antique Team, Superviseur : Pr. Xavier Rival.
Contribution to the formalization and the implementation of an abstract domain inside MemCAD, a static analyzer by abstract interpretation of C programs manipulating complex data-structures.

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May-July 2021 **Research lab Internship**, *CEA LIST*, LSL Lab, Supervisor: Dr. Julien Signoles.
Formalization, proof and implementation of the optimized runtime verification of some arithmetic primitives of the specification language ACSL. This work has been integrated inside the plug-in E-ACSL of Frama-C. github.com/felixridoux/internship-report-LSL/blob/main/report.pdf

June-July 2020 **Research lab Internship**, *IRISA*, Team LogicA, Supervisor: Pr. Sophie Pinchinat.
A two months internship in IRISA Team LogicA. The initial topic was the exploration of Answer Set Programming (ASP) for the benefit of Team LogicA's researchers. Then we have studied the semantics of Attack Trees and implemented it. github.com/felixridoux/internship-report-LogicA/blob/main/internship_report_logicA.pdf.

Publications

October 2023 **International conference**, *SAS 2023*.
A Product of Shape and Sequence Abstractions, with J. Giet and X. Rival. Work related to my internship at INRIA Paris. hal.science/hal-04253341.

June 2022 **National conference**, *JFLA 2022*.
Formalisation d'un vérificateur efficace d'assertions arithmétiques à l'exécution, with Th. Benjamin and J. Signoles. Work related to my internship at CEA LIST. hal.inria.fr/hal-03626779/document.

Award

October 2023 **Radhia Cousot Young Researcher Best Paper Award**, *SAS 2023*.

Teaching

September 2023 – March 2024 **Teaching assistant for undergratuated students**, *Lycée Lesage*, Vannes.
2 hours a week of oral examination in computer science for students in second year of bachelor in preparatory class for the French "Grandes Écoles". Topics: graph theory, advanced algorithmic, complexity, logic, computability...

Others

April 2020 **COVID lockdown activity**, *Waouh project*.
Implementation of an online program animator for learning the basis of programming. This animator and a report are available at felixridoux.github.io/Waouh/.

2018–2019 **TIPE**, *PC Preparatory Class*, Lycée François Rabelais.
A genetic algorithm to forecast the spread of forest fires. A report and the source code is available at gitlab.istic.univ-rennes1.fr/feridoux/tipe2019. The report is in French, however I would be happy to explain it in English because it is the work which made me love Computer Science.

Favorite topics in Computer Science

- Formal methods, programming language semantics, program analysis, abstract interpretation, type theory, language-based security.
- Logic, functional programming, proof theory, proof assistant.
- Cryptography.

Programming Skills

Advanced OCaml, Coq, C/C++, Python, ASP (Clingo), LaTeX
Intermediate x86, Java, (Liquid) Haskell, Scala, JavaScript, CSS, PHP, SQL

Language Skills

French **Native**.
English **Advanced**, *C1-C2*.
German **Intermediate**, *B1*.
Spanish **Beginner**, *A2*.