

Samuel Arzac

PhD student in computer science at ENS Lyon

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Education

PhD at ENS Lyon, supervised by Damien Pous & Russ Harmer Title: Rocq formalisation of graph transformation	2023 -
Diploma of ENS Paris-Saclay, Computer Science Department École Normale Supérieure Paris-Saclay	2023
Parisian Master of Research in Computer Science (MPRI) École Normale Supérieure Paris-Saclay Honours: <i>Magna cum laude</i>	2022

Publications

Samuel Arzac, Russ Harmer, Damien Pous. Formalizing adhesive category theory in Rocq. 36es Journées Francophones des Langues Applicatifs	JFLA 2025
Samuel Arzac, Russ Harmer, Damien Pous. Adhesive Category Theory for Graph Rewriting in Rocq. Proceedings of the 15th ACM SIGPLAN International Conference on Certified Programs and Proofs	CPP 2026

Internships

Internship at Seoul National University supervised by Chung-Kil Hur Title: Adapting Conditional Context Refinement to real world program	October 2022 - July 2023
Internship at ENS Lyon supervised by Russ Harmer & Damien Pous Title: Coq formalization of the concurrency theorem in graph transformation via diagrammatic reasoning in quasi-topoi	March - August 2022
Internship at the University of Strathclyde supervised by Robert Atkey Title: Expressivity of BCI algebras	February - July 2021
Internship at ENS Lyon supervised by Omar Fawzi Title: Multiple access channels with non-signaling resources	June - July 2020

Teaching

I was a teaching assistant for the following courses:

Advanced algorithms, L3 ENS Lyon (32h)	Spring 2024
Functional programming project, L3 ENS Lyon (2 * 32h)	Spring 2024 & spring 2026
Leçon, prépa agreg ENS Lyon (40h)	2023-2026
Databases and web programming, L2 Lyon 1 (45h)	2024-2025
Internship oral presentations, M2 ENS Lyon (4h)	2025

Other activities

Part of the organizers of the proof assistants seminar at ENS de Lyon	Since 2025
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Projects

CS Unplugged activity Activity about Eulerian paths aimed at upper secondary students. Designed with the help of the french Computer Science Unplugged group	2019 - 2020
Compiler for a subset of C in OCaml Written as part of a course on programming	2019
Small platformer game in Python Written as part of an introduction to software engineering	2020
Genome assembler in Python Written as part of a course on bioinformatics	2020
Comparison of heuristics for the A* algorithm on road networks, in Python Result of an introduction to scientific research	2018 - 2019