

Nicolas Chappe

Post-doc @ CNRS / VERIMAG

✉ nicolas dot chappe at univ-grenoble-alpes dot fr
🌐 <https://www-verimag.imag.fr/chappen/>

Academic positions

- 2025–2026 **Post-doctoral researcher**, supervised by Sylvain Boulmé and David (now) Monniaux. *CNRS, Verimag, France*
- 2021–2024 **PhD in Computer Science**, advised by Ludovic Henrio and Yannick Zakowski, *Contrat doctoral spécifique normalien – LIP, ENS de Lyon, France*

Studies

- 2018–2021 **Master’s degree in theoretical computer science**, *ENS de Lyon & Université Lyon 1, France*
- 2017–2018 **Bachelor’s degree in theoretical computer science**, *ENS de Lyon & Université Lyon 1, France*
- 2017–2018 **Bachelor’s degree in mathematics (dual degree)**, *Université Lyon 1, France*

Publications

International journal articles

- Accepted in JFP Nicolas Chappe, Paul He, Ludovic Henrio, Eleftherios Ioannidis, Yannick Zakowski and Steve Zdancewic. **Choice Trees: Representing and Reasoning About Nondeterministic, Recursive, and Impure Programs in Rocq.**
- 11 January 2023 Nicolas Chappe, Paul He, Ludovic Henrio, Yannick Zakowski and Steve Zdancewic. **Choice Trees: Representing Nondeterministic, Recursive, and Impure Programs in Coq.** *Proc. ACM Program. Lang.* 7, POPL, Article 61 (January 2023), 31 pages.
- 15 July 2021 Nicolas Chappe, Ludovic Henrio, Amaury Maillé, Matthieu Moy and Hadrien Renaud. **An Optimised Flow for Futures: from Theory to Practice.** *The Art, Science, and Engineering of Programming*, vol. 6, no. 1, 2022, article 3.

International conference articles

- January 2025 Nicolas Chappe, Ludovic Henrio, and Yannick Zakowski. **Monadic interpreters for concurrent memory models: Executable semantics of a concurrent subset of LLVM IR.** In *Proceedings of the 14th ACM SIGPLAN International Conference on Certified Programs and Proofs* (Denver, CO, USA) (*CPP ’25*).
- October 2023 Eddy Caron and Nicolas Chappe. **FicWebBoard: A Playful and Collaborative Learning Platform Built for All People and All Programming Languages.** *2023 IEEE ASEE Frontiers in Education Conference (FIE)*, Oct 2023

Drafts

In submission Nicolas Chappe. **The Sims: A Family of Simulations for Verified Compilation.**

Program committees

2023 POPL'24 Artifact Evaluation Committee

Teaching

- 2024-2025 Teaching assistant for **compiler practicals** (M2 agrégation, ENS de Lyon).
- 2023-2024 Teaching assistant for **computer architecture labs** (L2, Université Lyon 1).
- 2022-2023 Teaching assistant for **programming labs** (L3, ENS de Lyon). Various
& 2021-2022 contributions (300+ commits), including 9 new exercise sheets and maintenance of the online platform.
- 2022-2023 Teaching assistant for **compiler labs** (M1, ENS de Lyon). Various
& 2021-2022 contributions (200+ commits) to code and lab subjects.
- 2021-2022 Teaching assistant for **system and network programming labs** (then-new M2 agrégation, ENS de Lyon). 6 lab sheets with code skeletons entirely written.

Other experience

Research internships

- 2021 14-week research internship on compositional code generation for Vellvm in Coq (supervised by Ludovic Henrio and Yannick Zakowski, LIP).
- 2020-2021 23-week research internship on the design and evaluation of an algebraic tiling method for stencil loop nests (supervised by Philippe Clauss, ICube).
- 2020 20-week research internship on semantics and implementation of *data-flow explicit futures* (supervised by Ludovic Henrio and Matthieu Moy, LIP).
- 2019 11-week research internship on the compilation of climate stencils using MLIR (supervised by Tobias Grosser, ETH Zürich, and collaboration with MeteoSwiss).
- 2018 7-week research internship on computer-assisted formalization of properties on Markov decision processes (supervised by Samuel Vercraene, DISP).

Miscellaneous

- 2009-2025 Various personal programming projects, usually in modern C++, Rust, or Python
- 2018-2019 Initiator and co-head of the Symbolibre project (<https://symbolibre.org>), that involved 29 master students in the design of the hardware and software of a graphing calculator.
- 2016-2017 *TIPE* (personal project for a competitive exam) on the design and evaluation of a specialized compression algorithm for C source code.