

Nicolas WALDBURGER



INFO

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- +33 6 52 58 12 03
- Born on 28/11/1997, French national
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ABOUT ME

I'm an **Ecole Polytechnique** alumnus with a strong background in **mathematics** and **computer science**. Through my **engineering and PhD degrees**, I mastered a wide range of computer science concepts. Leveraging **fast learning** and **abstract reasoning** abilities, an ease with **teamwork** and a natural **intellectual curiosity**, I am able to acquire in-depth understanding of **complex subjects** with great efficiency.

EDUCATION

MASTER PARISIEN DE RECHERCHE EN INFORMATIQUE

2020-2021 • PARIS, FRANCE

- Theoretical training in France's top master program in computer science research
- Attended courses on algorithmics, logic, automata theory, game theory...
- Ranked 6th out of 65 students

ECOLE POLYTECHNIQUE

2017-2020 • PALAISEAU, FRANCE

- Top science and engineering school
- *Cycle ingénieur polytechnicien*
- Multidisciplinary training in 1st and 2nd year, theoretical computer science specialization in 3rd year (algorithmics, compilation...)
- Treasurer of several associations
- GPA: 3.91/4, ranked 36th out of 540 students

CPGE, LYCEE HOCHÉ

2015-2017 • VERSAILLES, FRANCE

- A two-year intense preparation in mathematics and physics

KEY SKILLS

- **Languages:** French (native), English (fluent), German (intermediary, B2)
- **Programming:** Python, Java, Ocaml, C/C++
- Autonomy, teamwork, innovativity, pedagogy

EXPERIENCE

PHD IN COMPUTER SCIENCE

2021-2024 • INRIA RENNES, DEVINE TEAM, RENNES, FRANCE

- With Nathalie Bertrand, Nicolas Markey and Ocan Sankur, on: *Parameterized verification of distributed shared-memory systems*
- Launched and managed several international research collaborations
- Programming and algorithmics teacher at the university and at ENS
- Elected member of INRIA Rennes site committee (2023-2024)

RESEARCH INTERNSHIP IN COMPUTER SCIENCE

2021 • IRIF, PARIS, FRANCE

- With Thomas Colcombet, on: *Omega-machines*

RESEARCH INTERNSHIP IN COMPUTER SCIENCE

2020 • IRIF, PARIS, FRANCE

- With Mahsa Shirmohammadi, on: *Reachability in 1-VASS with tests*
- *Grand Prix du stage de recherche*, internship prize for best research awarded by Ecole Polytechnique computer science department

COMPANY INTERNSHIP

2019 • ROHDE & SCHWARZ, MUNICH, FRANCE

- Developed test protocols in Python

SCIENTIFIC ADVISOR

2017-2018 • LA MAIN A LA PATE, BLOIS, FRANCE

- Supported school teachers on science projects in underprivileged areas
- Collaborated with 29 teachers and initiated several new partnerships

INTERESTS

- Badminton, bicycle, history, board games

ACADEMIC PUBLICATIONS

Note that the standard in the field is to use alphabetical order for list of authors. The only exception in the list below is the last publication where, because of large differences in contribution level, the choice was made to order authors according to the contribution level.

2022

- Nathalie Bertrand, Nicolas Markey, Ocan Sankur and Nicolas Waldburger. *Parameterized safety verification of round-based shared-memory systems*. International Colloquium on Automata, Languages and Programming 2022 (ICALP'22).

2023

- Nicolas Waldburger. *Checking Presence Reachability Properties on Parameterized Shared-Memory Systems*. International Symposium on Mathematical Foundations of Computer Science 2023 (MFCS'23).

2024

- Lucie Guillou, Corto Mascle and Nicolas Waldburger. *Parameterized Broadcast Networks with Registers: from NP to the Frontiers of Decidability*. International Conference on Foundations of Software Science and Computation Structures 2024 (FoSSaCS'24).
- Steffen van Bergerem, Roland Guttenberg, Sandra Kiefer, Corto Mascle, Nicolas Waldburger and Chana Weil-Kennedy. *Verification of Population Protocols with Unordered Data*. International Colloquium on Automata, Languages and Programming 2024 (ICALP'24).
- Dmitry Chistikov, Jérôme Leroux, Henry Sinclair-Banks and Nicolas Waldburger. *Invariants for One-Counter Automata with Disequality Tests*. International Conference on Concurrency Theory 2024 (CONCUR'24).
- Nicolas Waldburger, Chana Weil-Kennedy, Pierre Ganty and César Sánchez. *Temporal Hyperproperties for Population Protocols*. In preparation.