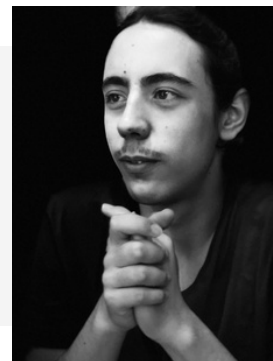


SACHA HURIOT

COMPUTER SCIENCE PHD STUDENT



PROFILE

I am a qualified researcher and software developer with a master's degree in computer science alongside experience in diverse logic and programming projects. I have strong analytical and creative skills. I am proficient in many types of languages and in using formal methods to model and validate.

RESEARCH EXPERIENCE

RESEARCH IN THEOREM PROVING

Vrije Universiteit Amsterdam, Netherlands

2021 - 2022

- Design and mathematical verification of Tate's algorithm
- Proving the safety of elliptic curves cryptography

RESEARCH INTERN FOR NATHALIE AUBRUN

LISN, Gif-sur-Yvette, France

2021

- Description of complexity of discrete dynamic systems
- Proving computational properties in group theory

RESEARCH INTERN FOR GLYNN WINSKEL

The Computer Lab, Cambridge, United-Kingdom

2020

- Representation of games and strategies in category theory
- Applications to concurrency and parallel computing

RESEARCH INTERN FOR MEHDI MHALLA

Laboratoire d'Informatique de Grenoble, France

2019

- Modeling of quantum information sharing with graphs
- Characterizing the computational power of quantum algorithms

ADDITIONAL EXPERIENCE

IKOS CONSULTING

Ikos Consulting, Levallois-Perret, France

2022-2023

- Verification of software used in critical railway reactive systems
- Specification, and modeling of ground/on-board environments

CS AND MATHEMATICS TUTORING

Complétude/Groupe Réussite, Paris, France

2018-2023

- Lessons and exercises personalized for the student's needs
- High school and undergraduate-level computer science courses

DATABASE SOFTWARE DEVELOPER

STM Nervi, Manosque, France

2018

- Development of a comprehensive facture sorting software
- Front end and UI design answering the client's specifications

FINANCIAL MODELING SOFTWARE DEVELOPER

Coélicence, Paris, France

2017

- Development of an economic prediction tool for market analysis
- Implementing mathematical models and a user-friendly interface

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- 📍 St. Louis, MO
- 🌐 Sacha Huriot

SKILLS

- Mathematics, logic, system modeling
- Python, SQL, Javascript, HTML, Bash
- OCaml, Coq, Lean, VBA, HLL
- Problem-solving and teamwork
- VS Code, GitHub, Slack, Emacs
- Report writing and presentation

EDUCATION

DOCTORATE IN COMPUTER SCIENCE

Washington University in St. Louis
2023 - Present

PARISIAN MASTER OF RESEARCH IN COMPUTER SCIENCE

École Normale Supérieure Paris-Saclay
2019 - 2021

BACHELOR OF FUNDAMENTAL COMPUTER SCIENCE

École Normale Supérieure Paris-Saclay
2016 - 2019

INTERESTS

- Reading and writing science-fiction
- Game design and development
- Science communication and popularization
- Computer-assisted abstract design
- Maths and programming visualization

PUBLICATIONS

SYMMETRY-BASED ABSTRACTION ALGORITHM FOR ACCELERATING SYMBOLIC CONTROL SYNTHESIS

Hussein Sibai, Sacha Huriot, Tyler Martin, Murat Arcak
NFM 2024, arXiv:2403.11816

AN EFFICIENT VERIFIED IMPLEMENTATION OF TATE'S ALGORITHM

Alex Best, Sander Dahmen, Sacha Huriot
In progress.

APERIODICITY AND DOMINO PROBLEMS ON FINITELY PRESENTED GROUPS

Nathalie Aubrun, Nicolas Bitar, Sacha Huriot
MFCS 2022, arXiv:2204.11492

CONTEXTUALITY AND EXPRESSIVITY OF NON- LOCALITY

Sacha Huriot, Mehdi Mhalla
EPTCS QPL 2020, arXiv:1912.11412