

# Antoine Martin

## Software Engineer and Researcher

Paris region, France  
✉ contact+resume@antoinemartin.fr  
🌐 blog.alarsyo.net  
👤 alarsyo  
>ID 0000-0002-3263-7669

### Experience

Oct 2021 – Jan 2026 **PhD Candidate, LRE, EPITA Research Laboratory, Paris, France**  
As a member of the Automata and Applications group, I work on efficient algorithms and tools for formal methods and model checking.

- Design and implementation of state of the art, parallel algorithms for automata construction, transformation, and model checking in Spot, a modern, high-performance **C++17** library
- Performance optimization and benchmarking
- Implement compiler passes in go2pins, interfacing Go programs with model checking tools
- Published and presented my work in international conferences and journals (4 publications, including **1 best paper award**)

Sep – Oct 2021 **Summer of Nix participant, NixOS Foundation**  
Selected to participate in the Summer of Nix program, packaging free software while learning about the Nix ecosystem.

Feb 2021 – Jul 2021 **Software Engineering Intern, DGEX Solutions, SNCF Réseau**  
Working on interactive, cross-platform visualization of LIDAR point cloud data

- Prototyped a **Rust/WebGPU** client
- Built a proof-of-concept **C++/OpenGL** video renderer for non-interactive use cases

Sep 2019 – Dec 2019 **Image Processing Software Intern, Langevin Institute, CNRS UMR 7587**  
Development of medical image processing software for retina Doppler imaging

- Implementation of high throughput GPU algorithms for real time imaging using **CUDA**, CuFFT, CuBLAS and CuSOLVER
- User interface in **C++/Qt**, designed in collaboration with hospital physicians
- Ported the project's build system from Visual Studio / MSBuild to CMake, bringing project build times down by a factor of 3.

Sep 2018 – Jan 2021 **Teaching Assistant, EPITA**  
Taught **C++**, Java, **C** and Unix to third year students, OCaml and .NET to first year students.

- Contributions to the internal tooling codebase
- Designed coding exercises for workshops and exams
- Lead the organization of a three weeks workshop to teach C and Unix programming

Aug 2017 – Mar 2019 **Junior Software Developer, Okkur Labs, Part time, remote**  
Built TXTDirect, backend software for DNS record based redirects, written in Go and serving up to 400k daily requests

### Education

2021 – 2026 **PhD, Computer Science, Sorbonne Université, Paris**  
*On-the-fly Translation of Industrial Temporal Logics to  $\omega$ -Automata*  
Thesis advisors: Alexandre Duret-Lutz, Etienne Renault  
Successfully defended on 27/01/2026.

2016 – 2021 **Engineering Degree, Computer Science, EPITA**  
Majored in Image Processing and Computer Graphics

2018 **Exchange Student, Computer Science, City University of Hong Kong**

### Extra curricular activities

**Notable Open Source contributions**

- Minor contributions to the **Rust compiler**
- Contributions to the Jujutsu Version Control System

2018 – Present **Member, Prologin, <https://prologin.org>**  
○ Help organize the French National Programming Contest

- Redaction of algorithmic problems and written exams
- Part of the sysadmin team for the 2022 contest edition

  
○ Help organize the *Girls Can Code!* programming summer school workshops  
○ Contributions to internal tooling and website code base (mostly Python, Django)

### Programming skills

Technologies Docker, GitLab CI/CD, Nix, Django

Languages Rust, C++, C, Go, Python, R, CUDA