

LÉO GOURDIN

<https://lgourd.in>

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EDUCATION

PhD Student at Verimag/TIMA laboratories, UGA, Grenoble, France

ENSIMAG, UGA, Grenoble, France 2017 - 2020

Engineering (Master) degree — Work-study contract

Aalto University, Helsinki, Finland

September 2019 - December 2019

ERASMUS Semester in machine learning, data science, computer vision and big data

IUT, UBFC, Dijon, France

2015 - 2017

Two year degree (DUT) in computer science

PUBLICATIONS

- CPP 2022 (paper): *Formally Verified Superblock Scheduling.*
- Coq Workshop 2021 (abstract): *Certifying assembly optimizations in Coq by symbolic execution with hash-consing.*
- AFADL 2021 (short paper): *Formally verified postpass scheduling with peephole optimization for AArch64.*

RESEARCH

Verimag/TIMA

October 2020 - Present

PhD Student

Grenoble, France

- Supervisors: Sylvain Boulmé and Frédéric Pétrot
- Skills: Formal proof, Certified optimizations, Compilers, Coq, Ocaml, assembly
- We implemented postpass scheduling and peephole optimizations inspired from a related work of C. Six on the CompCert AArch64 back-end.
- We lifted up expansions of instructions performed at the assembly level to the register transfert level of CompCert on the RISC-V back-end.
- Future: generalized block structure, strenght reduction, lifting others expansions, improved scheduling

EXPERIENCE

UGA

2021 - 2022

Teaching assistant

Grenoble, France

- ALGO L3 S5 - Tutorials (11 sessions), course about algorithmics and complexity
- Databases project (ENSIMAG) - Supervision of practical work (18 hours)
- C project about building a graphical framework (ENSIMAG) - Supervision of practical work (26 hours)

Asygn

2017 - 2020

Apprentice Engineer

Grenoble, France

- Supervisor: Christophe Leblanc
- Skills: Algorithmics, Python, Verilog, Matlab, IT/Linux

- Software engineering for embedded platforms: desktop and android RFID communication API.
- Research and development on RFID chips: real-time data analysis on-chip system.
- IT manager throughout the period.

BU-CROOCS (Bangkok University Center of Research in Optoelectronics, Communications and Control Systems)

Second year internship

Spring 2017

Bangkok, Thailand

- Supervisor: Romuald Jolivot
- Skills: Image processing, Algorithmics, Python, OpenCV
- Small research project on a plant phenotyping system using image processing: an autonomous vision software for Raspberry Pi designed to study plant growth using multiple cameras.

SERVICE

- **Volunteer**, ESOP 2022 - Artifact Evaluation Committee (AEC)
ETAPS 2022, 2-7 April 2022, Munich, Germany (Remotely)

LANGUAGES

- French: mother tongue
- English: fluent