

Théophile Bastian

PhD. Student – Université Grenoble-Alpes

École Normale Supérieure (ENS) of Paris

- 2016–2018 **Master Parisien de Recherche en Informatique (MPRI)**.
Master's degree, "mention très bien" (*summa cum laude*)
- 2015–2016 **Bachelor's degree**, *Computer Science Department*, ENS Paris.
- 2015 **Successfully passed the admission examination**, *Ranked 11th*.


Internships

- Oct 2020–
Aug 2021 **Modeling CPU performances through abstract resources**, *INRIA*, Grenoble.
Under the supervision of Fabrice Rastello, yielded a publication at CGO'22.
Topics: low-level, CPU, performance
- Mar-Aug 2020 **Announcing IPv4 routes with an IPv6 next-hop in Babel**, *IRIF*, Paris.
Under the supervision of Juliusz Chroboczek, RFC draft pending.
Topics: networks, routing, babel routing protocol
- Feb-Dec 2018 **DWARF debug data compilation and verification**, *ENS*, Paris, Team PARKAS.
Under the supervision of Francesco Zappa Nardelli. I implemented a tool to compile DWARF unwinding data, yielding to a $\times 26$ speedup for unwinding in *perf*.
Yielded a publication at OOPSLA'19.
Topics: low-level system, DWARF, compilation.
- Feb-June 2017 **Hardware circuits design and verification**, *Chalmers*, Gothenburg, Sweden.
Under the supervision of Carl Seger and Mary Sheeran.
Topics: hardware verification, sub-graph isomorphism.
- Summer 2016 **Game semantics**, *Computer Laboratory*, Cambridge, UK.
Under the supervision of Glynn Winskel.
Topics: game semantics, concurrency.

Past studies

- 2013–2015 **CPGE – "Classes Préparatoires"**, *Lycée S^{te} Geneviève*, Versailles, France.
CPGEs are two-years intense schools preparing to admission examinations of various prestigious schools. It also grants an academic equivalence for two years of a bachelor's degree.

Scientific publications

- CGO'22 **PALMED: Throughput Characterization for Any Architecture**, with Nicolas Derumigny et al. 
- OOPSLA'19 **Fast and Reliable DWARF Stack Unwinding**, with Stephen Kell, Francesco Zappa-Nardelli

Teaching

- 2021–... **Networks and Internet Principles**, *Phelma*, Grenoble, lab & tutorials TA.
- 2021–... **Imperative programming and algorithms**, *UGA*, Grenoble, lab & tutorials TA.
- 2018, 2019 **Computer architecture and OS**, *École Polytechnique*, Paris, lab sessions TA.

Computer science contests and activities

2016–2018 **Member of the Prologin organization team.**

Prologin is a french national contest in computer science. The final round goal is to develop an IA for a given board game in 36 hours.

2016 **Google Hash Code**, ranked 9th.

2015, '16, '17 **ACM SWERC**, ranked 8th, 9th, 14th.

2013–2017 **Teacher with France-IOI.**

France-IOI is an organization providing computer science formation to high-school pupils, and selecting the IOI french team.

2013 **International Olympiad in Informatics (IOI)**, *Brisbane*, Australia.

Member of the IOI french team.

2011, '12, '13, '16 **Prologin finalist.**

Skills

Languages French (native), English (fluent), Swedish (intermediate), Spanish (intermediate).

Technical Python, C++, C, OCaml, x86-64, HTML/CSS/Django, git, ansible, SQL, bash.

Noteworthy programming projects

- 🔗 Compiler from a large fragment of Scala to x86-64, written in OCaml.
- 🔗 ARM-like processor design, with a digital clock running on it.
- 🔗 Minimalistic kernel running on a Raspberry Pi featuring a full UDP stack.

Sysadmin experience

2022–... **Grésille, nonprofit network services provider**, *Grenoble*.

Grésille provides eg. emails, mailing-lists, collaborative spaces, etc. to 1000+ people and organizations around Grenoble.

2016–... **Students network**, *ENS Paris*.

Sysadmin of the students' network servers.

2016–2018 **Sysadmin for Prologin.**

A french national contest in computer science. The final stage of the contest relies on a large network of around 140 computers spawned overnight for the week-end.

Non-academic experiences and diplomas

2021–... **Choir treasurer**, *EVUG*, Grenoble.

General coordination and logistics experience; employer of a choir conductor.

2020 **Pastry chef diploma (CAP).**

I have since then acted as volunteer head chef in multiple 100-300 meals events.

Interests

Science Operating systems & low level, networks, compilation and programming languages

Hobbies Board games, cooking & fancy pastry baking, hiking, music, choir singing, understanding how things work & (technical) DIY