

Hugo Guiroux

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EDUCATION

Ph.D. student in CS

2015 -
Université Grenoble Alpes, France
Optimizing the execution of applications on modern multicore architectures
Advisors: Vivien Quéma and Renaud Lachaize

M.Sc in CS

2013 - 2015
Université Grenoble Alpes, France
Parallel, Distributed and Embedded Systems
With Highest Honors
Rank: 2nd/140

B.Sc in CS

2010 - 2013
Université Grenoble Alpes, France
With Highest Honors
Rank: 1st/120

SKILLS

Prog. languages

• C • Python • C++ • Shell
• R • JavaScript • PHP • Java

Systems

• Linux kernel • POSIX API
• Multicore architectures
• Lock algorithms • Profiling

EXTRA INFORMATION

Languages

French: Mother tongue
English: Fluent

LINKS

Github:// [HugoGuiroux](#)
LinkedIn:// [hugoguiroux](#)

EXPERIENCE

Ph.D. student | Aug. 2015 - Present

LIG Laboratory - Operating systems and distributed systems group
Université Grenoble Alpes, France

- Working on profiling tools and runtime approaches for performance on **NUMA** and **multicore architectures**.
- Implemented and evaluated the impact of 19 state-of-the-art **lock algorithms** on 36 real-world applications [1].
- Implemented a coroutine system to **mitigate performance scalability collapse**.
- Teaching **backend web development** to a class of ~30 undergraduate students.

Graduate research assistant | Feb. 2014 - Aug. 2015

LIG Laboratory - Operating systems and distributed systems group
Université Grenoble Alpes, France

- Worked on performance **bottleneck identification** and **mitigation** for multi-tier applications running on multicore architectures.
- Developed Linux **profiling tools** (~1k loc) for **performance troubleshooting** in complex software systems (e.g., MySQL).

INTERNSHIPS

Undergraduate research assistant | June 2013 - Aug. 2013

INRIA - Parallel algorithms and models group
Université Grenoble Alpes, France

- Extended a **task-based parallel programming language**, providing programmers with the ability to express complex matrix operations (~500 loc).

Undergraduate research assistant | June 2012 - Aug. 2012

TIMA Laboratory - Embedded systems group
Université Grenoble Alpes, France

- Added the support of the Xilinx MicroBlaze processor inside a **MPSoC Micro-Kernel** (~1k loc).

PUBLICATIONS

- [1] H. Guiroux, R. Lachaize, and V. Quéma. Multicore locks: The case is not closed yet. In *USENIX Annual Technical Conference (USENIX ATC)*, June 2016.
<https://github.com/multicore-locks/litl>.