Hugo Guiroux

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EDUCATION

Ph.D. in CS
2015 - 2018
Université Grenoble Alpes, France
Understanding the performance of mutual exclusion algorithms on modern multicore machines
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: 2^{nd}/140

B.Sc in CS
2010 - 2013
Université Grenoble Alpes, France
With Highest Honors
Rank: 1^{st}/120

SKILLS

Prog. languages
• C • Python • C++ • JavaScript
• Java • R • Shell • PHP

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

Technologies
• Oracle RDBMS • Hadoop
• Hive • HDFS • Graal

EXTRA INFORMATION

Languages
French: Mother tongue
English: Fluent

LINKS

Github:// **HugoGuiroux**
LinkedIn:// **hugoguiroux**

EXPERIENCE

Senior member of technical staff | Nov. 2018 -
Oracle Labs - Database processing research group
Zurich, Switzerland

- Working on integrating new programming languages (e.g., JavaScript) into the Oracle RDBMS Database.

Ph.D. student | Aug. 2015 - Oct. 2018
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 28 state-of-the-art **lock algorithms** on 40 real-world applications [1, 2].
- Implemented a coroutine system to **mitigate performance scalability collapse**.
- Teaching **backend web development** to a class of ∼30 undergraduate students.

Research assistant | June 2017 - Sep. 2017
Oracle Labs - Database processing research group
Zurich, Switzerland

- Extended the Oracle Database Smart Scan technology to **execute arbitrary JavaScript predicate (i.e., predicate offloading) on remote big data systems**.

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** for **performance troubleshooting** in complex software systems (e.g., MySQL).

PUBLICATIONS

[1] Rachid Guerraoui et al. “Lock – Unlock: Is That All? A Pragmatic Analysis of Locking in Software Systems”. In: *ACM Transaction on Computer System* (2019), to appear.

[2] Hugo Guiroux, Renaud Lachaize, and Vivien Quéma. “Multicore Locks: The Case Is Not Closed Yet”. In: *USENIX Annual Technical Conference (USENIX ATC)*. `https://github.com/multicore-locks/litl`. June 2016.