Loïc Pottier

PhD in Computer Science

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French Nationality

Passionate by solving problems at scale

Employments

2019 – **Postdoctoral scholar – Research Associate**, *University of Southern California*, Los Angeles, USA. I am working under the supervision of Dr Ewa Deelman and Dr Rafael Ferreira da Silva (SciTech research group) at the Information Science Institute, University of Southern California. I am working on scientific workflows management (scheduling and data management) for large-scale infrastructures, with a strong focus on HPC system.

2015 – 2018 **Teaching Assistant in Computer Science**, *École Normale Supérieure de Lyon and University of Lyon.* I have been a teaching assistant for 3 years during my PhD. See below for the list of classes.

2015 – 2018 **PhD in Computer Science**, *LIP laboratory – École Normale Supérieure de Lyon.* "Co-scheduling for large-scale applications: memory and resilience", under the supervision of Anne Benoit and Yves Robert in the ROMA team, defended on September 18, 2018

2016 (3 months) **Research intern**, *Argonne National Laboratory*, Chicago, USA. I have been working with Swann Perarnau on scheduling and data management problems for the new many-core architectures that exhibit new memory hierarchies, such as Xeon Phi Knights Landing.

Education

2015 – 2018 **PhD in Computer Science**, *LIP laboratory – École Normale Supérieure de Lyon.* Advisors: Anne Benoit and Yves Robert, defended on September 18, 2018

2013 – 2015 **Master of Science**, *University of Versailles, with High Honors («Bien»)* . Major in Computer Science, specialized in High Performance Computing

2010 – 2013 **Bachelor of Science**, *University of Lower Normandy, with Honors («Assez Bien»)* . Major in Computer Science

2010 **High school diploma**, Caen, Lower Normandy, *with Honors («Assez Bien »).* Major in Science, minor in Mathematics

Publications   – authors are listed in alphabetical order

Thesis

[T1] Loïc Pottier. "Co-scheduling for large-scale applications : memory and resilience". PhD thesis. Université de Lyon, Sept. 2018.

Book Chapters

[B1] G. Aupy, A. Benoit, L. Pottier, P. Raghavan, Y. Robert, and M. Shantharam. "Co-scheduling high-performance computing applications". In: *Big Data Management and Processing*. Ed. by K.-C. Li, H. Jiang, and A. Zomaya. Chapman and Hall/CRC Press, 2017. Chap. 5. ISBN: 9781351650045.

Articles in International Refereed Journals

[J1] G. Aupy, A. Benoit, B. Goglin, L. Pottier, and Y. Robert. "Co-scheduling HPC workloads on cache-partitioned CMP platforms". In: *International Journal of High Performance Computing Applications* (Apr. 2019). DOI: 10.1177/1094342019846956.

[J2] G. Aupy, A. Benoit, S. Dai, L. Pottier, P. Raghavan, Y. Robert, and M. Shantharam. "Co-scheduling Amdahl applications on cache-partitioned systems". In: *International Journal of High Performance Computing and Applications* (2017). DOI: 10.1177/1094342017710806.

[J3] A. Benoit, L. Pottier, and Y. Robert. "Resilient co-scheduling of malleable applications". In: *International Journal of High Performance Computing and Applications* (2017). DOI: 10.1177/1094342017704979.

Articles in International Refereed Conferences

[C1] G. Aupy, A. Benoit, B. Goglin, L. Pottier, and Y. Robert. "Co-scheduling HPC workloads on cache-partitioned CMP platforms". In: *IEEE International Conference on Cluster Computing, CLUSTER 2018, Belfast, UK, September 10-13*. IEEE. Sept. 2018. DOI: 10.1109/CLUSTER.2018.00052.

[C2] A. Benoit, S. Perarnau, L. Pottier, and Y. Robert. "A performance model to execute workflows on high-bandwidth-memory architectures". In: *47th International Conference on Parallel Processing, ICPP 2018, Eugene, USA, August 13-16*. Aug. 2018. DOI: 10.1145/3225058.3225110.

[C3] A. Benoit, L. Pottier, and Y. Robert. "Resilient application co-scheduling with processor redistribution". In: *45th International Conference on Parallel Processing, ICPP 2016, Philadelphia, USA, August 16-19*. Aug. 2016. DOI: 10.1109/ICPP.2016.21.

Articles in International Refereed Workshops

[W1] G. Aupy, A. Benoit, L. Pottier, P. Raghavan, Y. Robert, and M. Shantharam. "Co-scheduling algorithms for cache-partitioned systems". In: *19th Workshop on Advances in Parallel and Distributed Computational Models APDCM 2017*. IEEE Computer Society Press, 2017. DOI: 10.1109/IPDPSW.2017.60.

Internships

2015
(6 months) **Intern**, *École Normale Supérieure de Lyon*, Lyon, France. I have worked on scheduling problems and on algorithms for detecting and correcting errors, under the supervision of Yves Robert and Anne Benoit in the research team ROMA.

2013
(3 months) **Intern**, *Institut de Recherche pour le Développement (IRD)*, Sète, France. The aim was to process GPS data from fishing boats, the data set was consistent (more than one million lines). The final goal was to build a geographic information system (GIS) to visualize the data.

Teaching

2017 – 2018	Master – Parallel algorithms (22h, University of Lyon)
	Master – Distributed algorithms (10h, University of Lyon)
	Bachelor – Programming 1 (32h, ENS de Lyon)
2016 – 2017	Bachelor – ASR2: Advanced Computer Architecture and Network (32h, ENS de Lyon)
	Bachelor – Programming 1 (32h, ENS de Lyon)
2015 – 2016	Master – Image Processing and Computational Geometry (20h, ENS de Lyon)
	Bachelor – ASR1 : Computer Architecture and Network (6h, ENS de Lyon)
	Bachelor – ALGO2 : Advanced Algorithms (32h, ENS de Lyon)

Languages skills

French	**Native.**	English	**Fluent.**

Computer skills

Programming	C, C++, Python, R, Bash, LaTeX, Rust (beginner).	Parallelism	OpenMP, MPI, Parallel architectures.
Operating Systems	Unix, System Programming.	Theory	Scheduling, Complexity Theory, Algorithm Design.

Collectives responsibilities

Administrative

2017-2018	Elected representative for non-tenured members at the LIP (ENS Lyon computer science laboratory) council, co-organized a two-days seminar for PhD students.

Program Committee

2019	PPAM, ICPP, eScience Workshops, EuroPar Workshops

Refereeing

2019	PPAM, ICPP, IJHPCA, Computing Journal, eScience Workshops, EuroPar Workshops	2018	IJHPCA, SUSCOM

References

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