

# MICHAEL PAPER

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## OBJECTIVE

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Research Assistant seeking a PhD position in systems research starting in Fall 2024.

## EDUCATION

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**Master of Computer Science**, EPFL 2021 - 2023  
Computer Systems specialization. GPA of 5.59/6. Relevant coursework: (CS596) Optional Semester Project in the Data Center Systems Laboratory entitled *Verified Page Tables Manipulation*, (CS470) Advanced computer architecture, (CS522) Principles of computer systems.

**Master of Computer Science**, ENS de Lyon 2020 - 2023  
GPA of 16/20. Relevant coursework: Compilers and program analysis, Performance evaluation and networks, Cryptography and security, Semantics and verification.

**Bachelor of Computer Science**, ENS de Lyon 2019 - 2020  
GPA of 16.5/20. Ranked 1st in the systems course with a score of 20/20.

**First two years of the Bachelor of Computer Science**, University of Strasbourg 2017 - 2019  
Studied the first two years of the Bachelor of Engineering. Passed the first year with a 14.7/20 GPA, ranking 11th in a promotion of more than 200 students. Passed the second year with a 15.7/20 GPA, ranking 2nd in a promotion of 74 students.

## EXPERIENCE

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**Research Assistant** Nov 2023 - Expected Aug 2024  
LSDL group, Imperial College London *London, UK*

- Research on software approaches to confidential computing.

**Visiting Student Researcher** Feb 2023 - Aug 2023  
SkyLab, UC Berkeley *Berkeley, CA, USA*

- Explored issues related to dynamic reconfiguration of BFT agreement systems.
- Designed a mechanism to allow decentralized partial reconfiguration.
- This mechanism allows low-latency safe removal of processes, and achieves higher throughput than previous approaches.

**Intern** Aug 2022 - Jan 2023  
PGX Team, Oracle Labs *Zürich, Switzerland*

- Extended the Linux kernel with a scheduler for which the policy is implemented by a user using eBPF.
- Obtained 20% speedups compared to the default scheduler with basic policies on NAS benchmarks.

**Intern** Apr 2021 - Jul 2021  
Research group on complex systems, University of Neuchâtel *Neuchâtel, Switzerland*

- Implemented a switchless call mechanism for Intel SGX which does not require any configuration from users.
- Found two implementation issues in Intel's SGX SDK.
- Each contribution led respectively to 1.82x throughput improvement on OpenSSL benchmarks compared to previous systems and 15x throughput improvement on memory copying functions.

**Intern** Jun 2020 - Jul 2020  
Wide Team, INRIA Rennes *Rennes, France*

- Improving thread placement strategies for multicore processors with per-core frequency adaptation.
- Fixed an implementation bug in a task scheduling policy, improving performance by 7.4% on hackbench.

## PUBLICATIONS

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*SGX Switchless Calls Made Configless* Peterson Yuhala, **Michael Paper**, Timothée Zerbib, Pascal Felber, Valerio Schiavoni, Alain Tchana. Proceedings of DSN 2023 (53rd IEEE/IFIP DSN). Porto, Portugal, June 2023.

## EXTRA-CURRICULAR ACTIVITIES

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- Founded Van Hout'ENS, the hot chocolate club of ENS de Lyon. Ran for president of the general student association supported by Van Hout'ENS enthusiasts, made it to the second round of the elections.
- Co-founded ChocoPoly, the hot chocolate association of EPFL, currently followed by more than 300 students on Telegram. During my term, ChocoPoly served 170L of hot chocolate and collaborated with 6 other associations on various events.
- Participated in official Rubik's Cube competitions (French and World Championships in 2017).