



## Skills

### Advanced

Python  
R  
C  
Bash  
MPI  
L<sup>A</sup>T<sub>E</sub>X  
GNU / Linux  
Git  
CI / CD

### Intermediate

C++  
Java  
SQL  
OCaml

## Language

French (native)  
English (advanced)

## Education

|                              |  |                                  |
|------------------------------|--|----------------------------------|
| 2017 – 2021<br>Grenoble (FR) | <b>PhD in Computer Science</b><br>High Performance Computing: Towards Better Performance Predictions and Experiments. <ul style="list-style-type: none"><li>Developed a new approach for emulating the execution of complex MPI applications at large scale and predict their performance. Used Simgrid simulator and statistical models. Achieved unprecedented accuracy (<math>\sim 5\%</math> error) at very low cost.</li><li>Carried experimental campaigns on hundreds of compute nodes with rock-solid methodology. Unveiled highly unexpected phenomena. Implemented an experiment engine with Python (packages: fabric, requests). Analyzed and visualized experiment results with R (packages: ggplot2, dplyr, tidyr) and Python (packages: pandas, plotnine, statsmodels) using Jupyter notebooks.</li><li>Implemented systematic performance non-regression testing for Grid'5000 machines with automated measures and statistical analyses. Detected many significant issues unnoticed by both the staff and the users. Micro-benchmarks in C, automation in Python.</li><li>Implemented a Python package to compute a piecewise linear regression, returning much better fits than the existing alternatives.</li><li>Wrote several articles, published in top conferences and journals.</li><li>Presented my work in multiple international gatherings.</li></ul> | <b>Université Grenoble Alpes</b> |
| 2015 – 2017<br>Grenoble (FR) | <b>M.Sc. &amp; Engineering Degree in Computer Science</b><br>Specialization in parallel and distributed systems.<br>Obtained a Master of Science, with the highest honor, ranked 2 <sup>nd</sup> /88.  | <b>Ensimag</b>                   |
| 2013 – 2015<br>Lyon (FR)     | <b>B.Sc. in Theoretical Computer Science</b><br>Broad and intensive program in computer science.<br>Obtained a Bachelor of Science, with great honor.  | <b>ENS Lyon</b>                  |

## Experience

|                              |  |                                  |
|------------------------------|--|----------------------------------|
| 2018 – 2020<br>Grenoble (FR) | <b>Graduate teaching assistant</b><br><ul style="list-style-type: none"><li>Gave lectures, tutorials and practical works.</li><li>Taught all levels from 1<sup>st</sup> year (L1) to 4<sup>th</sup> year (M1).</li><li>Courses: introduction to Python, software development, operating systems, algorithmics, data analysis and visualization (in R).</li></ul> | <b>Université Grenoble Alpes</b> |
| 2017<br>Chicago (US)         | <b>Performance Variability in Supercomputers</b><br>Three month research internship. <ul style="list-style-type: none"><li>Carried experiments and statistical analyses to characterize computer performance variability, using micro-benchmarks.</li></ul>  | <b>Argonne Laboratory</b>        |
| 2017<br>Grenoble (FR)        | <b>Efficient Simulation of Large-Scale MPI Applications</b><br>Six month research internship. <ul style="list-style-type: none"><li>Modified the simulator (C++) and the simulated application (C) to enable large scale simulations.</li><li>Outcome: simulate executions several orders of magnitude larger.</li></ul>   | <b>Inria</b>                     |
| 2016<br>Walldorf (DE)        | <b>Multicast Communication in SAP HANA</b><br>Three month R&D internship. <ul style="list-style-type: none"><li>Implemented multicast algorithms in C++ in HANA codebase.</li><li>Implemented functional and performance tests in Python.</li></ul>  | <b>SAP</b>                       |
| 2015<br>Grenoble (FR)        | <b>Job Isolation in Fat Tree Topologies</b><br>Three month R&D internship. <ul style="list-style-type: none"><li>Designed algorithms preventing information leaks in clusters.</li><li>Implemented a proof of concept in Python, worked on its integration in Bull's software stack.</li></ul>   | <b>Bull</b>                      |