# CAMILLE SAINT-MARTIN
**Data scientist**

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PhD graduate in Engineering Science with solid experience in modeling and programming. Driven by curiosity and problem-solving, I am ready to bring valuable insights to data-driven projects as a future data scientist engineer.

## WORK EXPERIENCE

PhD Researcher — From October 2020 to June 2024
**SYMME Laboratory, Université Savoie Mont Blanc** Annecy-Le-Vieux
[Toward the optimization of nonlinear vibration energy harvesters' performance](#)

**Supervisors**: Ludovic Charleux, Adrien Morel and Émile Roux

- Numerical modeling of nonlinear vibrational systems
- Defined a new performance metric for evaluating energy harvester efficiency
- Developed GPU-accelerated HPC codes for simulating system dynamics
- Optimized the performance of a bistable nonlinear vibration energy harvester

Master's Internship in Applied Mathematics — From March 2020 to July 2020
**Jean Kuntzmann Laboratory, Université Grenoble Alpes** Saint-Martin-d'Hérès
Perfectly Matched Layers (PML) for a Non-Hydrostatic Compressible Ocean Model

**Supervisor**: Eric Blayo

- Modeled oceanic currents using a non-hydrostatic compressible flow model
- Studied and compared boundary conditions using Perfectly Matched Layers (PML)
- Applied PML to improve the numerical treatment of open boundary conditions in ocean simulations

## TEACHING AND MENTORING

Internship supervision – Cloé Léglise (4th year engineering student) — From April 2023 to July 2023
**Université Savoie Mont-Blanc** Annecy-le-Vieux
Numerical modeling of nonlinear oscillators for vibrational energy harvesting

Development of a graphical interface in Julia for analyzing the dynamics of vibrational energy harvesters.

Teaching Assistant — From April 2021 to June 2023
**Université Savoie Mont-Blanc** Annecy-Le-Vieux
- Numerical Methods (18h), 2nd year, PEIP
- Applied Mathematics and Statistics (20h), 1st year, ECOG
- Applied Mathematics (24.5h), 2nd year, ECOG
- Probability and Statistics (18h), Master's level (5th year)
- Numerical Tools for Engineers (24h), Bachelor's level (3rd year)

## EDUCATION

PhD in Engineering Science — June 2024
**Université Savoie Mont Blanc** Annecy-le-Vieux

Master's Degree in Numerical Modelling and AnalysisAnalysis — 2020
**Université de Montpellier** Montpellier

Bachelor's Degree in Mathematics — 2018
**Université de Montpellier** Montpellier

## PROFESSIONAL DEVELOPMENT COURSES

Programming and optimization on heterogeneous architectures.                    2024
**HPC Gray Scott School** Annecy-Le-Vieux (2 weeks)
- Optimisation of computations on different types of hardware (CPU, GPU)
- Generic optimisation methods applicable to all types of hardware

Fundamentals of Accelerated Computing with CUDA Python                         2022
**Nvidia** online (1 day)

## KEY COMPETENCIES

**Strong adaptability to evolving research and innovation requirements in professional settings**

**Skilled in applying research methods and tools aligned with innovation processes**

**Proficient in acquiring, synthesizing, and analyzing cutting-edge scientific and technological data**

**Curious and open-minded, with a continuous commitment to developing a high-level scientific culture**

**Effective communication of scientific and technical work within international research communities**

## LANGUAGES

**French**
Native speaker

**English**
C1 level – Strong written English; good verbal skills.

Scientific publications and international conference presentations in English.

## COMPUTER SKILLS

**Python (advanced)**
Full research workflow implemented in Python, including numerical modeling, symbolic computation, data analysis, and machine learning.
**Libraries:** Numpy, SciPy, Matplotlib, SymPy, Pandas, Scikit-learn, Numba, Jupyter.

**Matlab (intermediate)**
Used during Bachelor's and Master's projects; reviewed team code during PhD work.

**C, C++ (beginner)**
Completed an online course MOOC and studied during a Master's-level course.

## DEVELOPMENT AND INTEGRATION

**Latex (advanced)**
Regular use for writing reports and academic papers.

**Linux (advanced)**
Ubuntu, Mint, VM Linux, Bash.

**Git (intermediate)**
Practical experience with version control in individual and team projects. Basic CI integration with Git hooks.

**Docker (intermediate)**
Set up containerized workspace and built custom Docker images for API deployment.

## REFERENCES

**Ludovic Charleux**
Associate Professor, SYMME Laboratory
ludovic.charleux@univ-smb.fr

**Émile Roux**
Associate Professor, SYMME Laboratory
emile.roux@univ-smb.fr

## INTERESTS

**Sports and hobbies**
Tennis, hiking, nature enthusiast

## SOCIAL NETWORKS

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