Chloé SERRE-COMBE

PHD STUDENT IN STATISTICS · EXTREME VALUE THEORY, GEOSTATISTICS

Montpellier, France

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Education

Master in Statistics and Data Science, specialisation in Biostatistics
Montpellier, France

University of Montpellier
2020 - 2022

- **Courses:** Statistical Theory and Methods, Extreme Statistics, Optimization, Linear models, Statistical learning, Stochastic processes

3rd year of engineering school, specialisation in IT and Management
Montpellier, France

Polytech
2019 - 2020

- **Courses:** Software engineering, Databases, Probability, Statistics, Graph Theory, Optimization, Economy and Management
- Programming: `python`, `C`, `Swift`, `Java`, `php`, `JavaScript`, `HTML/CSS`, Assembly language

2nd year of bachelor in Pure and Applied Mathematics
Aix-en-Provence, France

University of Aix-Marseille
2018 - 2019

1st year of bachelor in Mathematics and Computer Science
Aix-en-Provence, France

University of Aix-Marseille
2017 - 2018

Work Experience

Ph.D Student
Montpellier, France

IMAG, University of Montpellier and Inria LEMON Team
2023 - 2025

- Stochastic generators of precipitation and risk assessment of urban flooding at high spatiotemporal resolution
- **Supervisors:** Nicolas Meyer (IMAG, Inria), Thomas Opitz (INRAE, Avignon, France) and Gwladys Toulemonde (IMAG, CNRS, Inria)

Sandwich Student
Clapiers, France

KanopyMed
Sept 2021 - Aug 2022

- Master's Thesis: Quantification and modeling of mortality related to air pollution in the Montpellier agglomeration
- Spatial statistics, epidemiology, EQIS method, code in `python` and `JavaScript`
- **Supervisors:** Ulysse Rodts, Grégoire Mercier

Intern
Montpellier, France

IMAG, University of Montpellier
July 2020 - Aug 2021

- Extension of the `RKeOps` package, the `R` interface to `KeOps`, a software package for performing 2D array reduction computations on GPUs.
- **Supervisors:** Benjamin Charlier, Ghislain Durif

Intern
Aix-en-Provence, France

University of Aix-Marseille
June 2018 - July 2018

- Miller-Rabin primality test, comprehension, oral presentation and writing on the subject
- **Supervisors:** Julien Keller

Teachings

Modeling and Statistics
2022-2025

3rd year of engineering school, IT and Management specialisation, Polytech Montpellier, France

- Descriptive statistics, conditional probabilities, discrete and continuous random variables, random vectors and independence, `R` language
- Courses, exercises, `R` coding practice, exam writing and marking

Probability, Modeling and Statistics
2024

3rd year of engineering school, IT Development and Operations specialisation, Polytech Montpellier, France

- Conditional probabilities, discrete and continuous random variables
- Courses, exercises, exam writing and marking

Multidimensional Data Analysis
2023

4th year of engineering school, IT and Management speciality, Polytech Montpellier, France

- Statistics, linear regression, data visualization, `R` language, `ggplot` package, `Shiny` application
- Online courses on github/chloesrcb/ig4-dataviz, applied exercises

Linear Algebra *2023*

1st year of bachelor's degree, University of Montpellier, France

- Linear system, linear subspace, matrices, linear application, diagonalization, change of basis
- Exercises, exam marking

Private lessons *2021-2024*

- Mathematics for 2 highschool students
- Mathematics for a *Classe préparatoire* student in B/L (pluridisciplinary) specialisation

Talks

INTERNATIONAL CONFERENCES

July 2024 *Modeling moderate and extreme urban precipitation at high spatio-temporal resolution* at EVAN, Istituto Veneto di Scienze, Lettere ed Arti, Venezia, Italy

June 2024 *Modeling moderate and extreme urban precipitation at high spatio-temporal resolution* at IMSC, Météo France, Toulouse, France

June 2023 *Modeling moderate and extreme urban precipitation at high spatio-temporal resolution* at EVA, Univ. Bocconi, Milano, Italy

NATIONAL CONFERENCES

May 2024 *Modeling moderate and extreme urban precipitation at high spatio-temporal resolution* at Journées des Statistiques (JDS), Univ. Bordeaux, France

April 2024 *Modeling moderate and extreme urban precipitation at high spatio-temporal resolution* at Rencontres des Jeunes Statisticiens (RJS), Porquerolles, France

Sept 2023 *Modeling urban precipitation at high spatio-temporal resolution* at MUFFINS Workshop, Aix-en-Provence, France

July 2023 *Modeling urban precipitation at high spatio-temporal resolution* at Journées des Statistiques (JDS), Univ. Bruxelles, Belgium

June 2023 *Towards statistical modeling of urban rainfall on a fine spatio-temporal scale* at RESSTE day, FRUMAM, Marseille, France

Involvement

2023-2024 Co-organizer of the Ph.D seminar at IMAG, University of Montpellier

Feb 2024 Mediation for undergraduate women at *Maths C pour L*, CIRM, Marseille

Skills

Programming R, Python, C, HTML/CSS, JavaScript, Bash.

Tools Linux, LaTeX, Git.

Languages **French** (native), **English** (fluent), **Italian** (fluent), **Spanish** (notion), **Japanese** (notion)