SIMON RUGET

Engineer/PhD in applied mathematics

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EDUCATION

PhD in applied mathematics
CERMICS x Inria (Matherials)
📅 2022-2025 📍 France

- Homogenization theory | Inverse problems | Schrödinger equation

Master's degree of Science in Numerical Analysis and PDEs
Sorbonne Université x École des Ponts ParisTech
📅 2021-2022 📍 France

- Graduated with High Honors.
- Homogenization theory | Stochastic PDEs | Langevin equation | Spectral theory | Hyperbolic equation | Control theory in finite and infinite dimension

Engineering School
École des Ponts ParisTech
📅 2018-2022 📍 France

- Departement of computer science and Mathematical engineering (IMI).
- **Probability** (Markov chain, Itō calculus, stochastic PDEs, Applications in Quantitative Finance : various models of options) | **Analysis and PDE** (Sobolev spaces, Fourier analysis, Evolution equations) | **Machine Learning** | Optimisation | Numerical Simulation (Finite Elements)

Preparatory classes (Science)
Lycée Henri IV
📅 2016-2018 📍 France

- Intensive program to prepare examinations to enter in leading French engineering schools.
- I entered École des Ponts ParisTech (Top 3 engineering French school).

French A-levels (Science)
Lycée Henri IV
📅 2016 📍 France

- Graduated with High Honors (GPA = 5/5).
- European classes (German).

PROJECT

Financial Modeling of European Option
École des Ponts ParisTech

- Estimation of the price of European options and study of the implicit volatility smile for models with discrete jump and log-normal jump processes.

EXPERIENCES

R&D Engineer
EDF Lab, MFEE
📅 2022, 6 months, internship

- Numerical methods for turbulent incompressible Navier-Stokes equations.
- **Main author of a scientific article** submitted for publication in a peer-reviewed journal (Compte Rendu Académique des Sciences de Paris).

Research Assistant
CEA x Inria (Matherials)
📅 2021, 5 months, internship

- New method for the calculation of quantum resonances.
- **Co-author of a scientific article** published in a peer-reviewed journal (arXiv : http://arxiv.org/abs/2204.07063)

DevOps Engineer
Thales Alenia Space
📅 2020, 5 months, internship

COMPUTER SKILLS

C/C++ Python R SQL Github LaTeX

LANGUAGES

English
- Professional skills.

French
- Native.

German
- Limited professional skills (Certification DSD II - Goethe Institute)

SPORTS

- Boxing : 6h/week, 2 amateur boxing fights
- Workout
- Basketball
- Swimming