

# PIERRE GRAEF

Mathematical Engineering & Data Science Graduate, 23 years old

Strasbourg, Alsace, France

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## EDUCATION

### Master's Erasmus exchange

Aug 2023 – Jan 2024

Mälardalen University, Västerås, Sweden

- Python in Financial Engineering: Processed and visualized financial data, integrated Python with Excel and the Web
- Data Analysis, Clustering, and Classification: Worked with K-means, EM, DBSCAN, Naive Bayes, SVM, and LDA
- Gained international experience in a multicultural environment

### Master's Degree in Applied Mathematics "Mathematical Engineering and Data Science"

2022 – 2024

Faculté des sciences et techniques, University of Haute-Alsace, France

- Probability, statistics, optimization
- Data analysis, business intelligence, reporting
- Python, R, SQL

### Double Bachelor's Degree in Mathematics & Quantitative Economics

2019 – 2022

Faculté des sciences économiques et sociales, University of Strasbourg, France

- Algebra, analysis, probability, statistics, optimization
- Finance, quantitative economics, econometrics

## WORK EXPERIENCE

### Intern : Data Projects for Specialty Reinsurance Solutions

Mar 2024 – Aug 2024

Munich Re, Munich, Germany

- Developed an actuarial tool for indexation in R, demonstrating problem-solving skills and technical adaptability
- Automated data acquisition and cleaning, enhancing workflow efficiency
- Created documentation for knowledge transfer
- Gained international experience, adapting to a multinational environment
- Applied advanced R and Excel techniques to solve real-world challenges

### Town hall reception agent

Summer 2022 & 2023

Town hall, Lingolsheim, France

## DATA SCIENCE PROJECTS

### PORTFOLIO

[www.pierregraef.com](http://www.pierregraef.com)

### Trust Region Algorithm, Master First year

Explored trust region algorithms for **non-linear optimization**, implementing and **fine-tuning** various methods in **Python**. Applied these techniques to optimize a complex financial portfolio, showcasing analytical and programming skills.

### Actuarial Tool for Marine Reinsurance

Developed an **R-based tool** that automates the **acquisition, cleaning, and sorting** of data from public databases, such as UNCTAD. This tool applies **actuarial methodologies** to assess exposure to loss and analyze the impact of inflation on premiums.

## TECHNICAL SKILLS

**Mathematics Engineering** : proficiency in statistics, probability, algebra

**Python & R**: web scraping, cleaning and transforming data, project structure, object-oriented

**Git** : version control, collaboration in team projects

**Artificial Intelligence** : neural networks, supervised/unsupervised learning, model optimization

**SQL** : database conception and management

**Data visualization** : skills using tools like Matplotlib and PowerBI

**Matlab** : machine learning algorithms for classification, regression, clustering

## LANGUAGES

**French**: native proficiency; **English**: fluent/full professional proficiency, TOEIC C1; **German**: limited working proficiency; **Italian**: limited working proficiency.

## HOBBIES & VOLUNTEERISM

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### Co-founder and treasurer of a humanitarian association, “ Elsass Raiders “

2022 – 2024

Established an association to take part in Europ'Raid, a humanitarian rally, where we delivered school supplies to a remote orphanage in Eastern Europe. Experience in fundraising, sponsor acquisition, and project presentation.

### Handball Club Eckbolsheim

2010 – 2023

Player for 13 years at a regional excellence level.

Actively participating in the club's community activities such as distributing flyers, sales, and organizing events.

## REFERENCES

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**Romain Rossier**, Munich Re, Head of Solutions

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*I hereby consent to the processing of my personal data contained in this CV, in accordance with Article 6.1(a) of the GDPR - Regulation (EU) 2016/679.*