PIERRE GRAEF

Graduate Mathematical Engineer & Data Scientist - 23 years old

Strasbourg, Alsace, France

(+33) 7 61 91 16 65 | graef.pierre@gmail.com | www.pierregraef.com

EDUCATION

Exchange Erasmus Master   August 2023 – January 2024
Mälardalen University, Västerås, Sweden
- Python in Financial Engineering: Financial data processing and visualization, integration with Excel and the Web
- Data analysis, clustering, and classification: K-means, EM, DBSCAN, Naive Bayes, SVM, LDA
- International experience in a multicultural environment

Master's in Applied Mathematics "Mathematical Engineering and Data Science   2022 – 2024
Faculty of Science and Technology, University of Haute-Alsace, France
- Probability, statistics, optimization
- Data analysis, business intelligence, machine learning
- Database conception & management
- Python, R, SQL, C++, Java (object-oriented)

Double Bachelor's Degree in Mathematics & Quantitative Economics   2019 – 2022
Faculty of Economics and Social Sciences, University of Strasbourg, France
- Algebra, analysis, probability, statistics, optimization
- Finance, quantitative economics, econometrics

PROFESSIONNAL EXPERIENCE

Internship: Data Projects for Specialty Reinsurance Solutions   March 2024 – August 2024
Munich Re, Munich, Germany
- Developed and implemented an actuarial tool in R Studio for indexing, demonstrating problem-solving and technical adaptability
- Automated data acquisition and cleaning processes, improving workflow efficiency
- Independently wrote complete documentation for the tool and its code, deployed on internal Cloud
- Gained international experience in a multinational environment, working in an agile team
- Utilized internal generative AI model and workshop to train my team, improved my communication skills

Agent at the City Hall   Summer 2022 & 2023
Lingolsheim Town Hall, France

DATA SCIENCE PROJECTS

PORTEFOLIO (market strategy analysis, customer personality, chatbot IA…)
www.pierregraef.com

Trust Region Algorithm, 1st Year Master's Project
Explored trust region algorithms for nonlinear optimization, implemented and adjusted different methods in Python. Applied these techniques to optimize a complex financial portfolio, showcasing analytical and programming skills.

Marine Reinsurance Actuarial Tool
Designed an automated tool in R to collect, clean, and organize data from public sources such as UNCTAD. This tool applied actuarial methods to model risk exposure, calculate potential losses, and assess the impact of inflation on reinsurance premiums.

TECHNICAL SKILLS

Mathematical Engineering: Expertise in statistics, probability, algebra
Python & R: Web scraping, data cleaning and transformation, object-oriented programming (Pandas, NumPy, Scikit-Learn…)
Git: Version control, team project collaboration
Artificial Intelligence: Neural networks, supervised/unsupervised learning, deep learning, model-building
SQL: Database design and management, ETL processes
Data Visualization: Proficiency with tools like Matplotlib and PowerBI
Matlab: Machine learning algorithms for clustering, classification, and regression
Organization: Agile work methodologies
Cloud Deployment: AWS Cloud services, Certification Practitioner, AI & Prompt

LANGUAGES

French: Native language
English: Fluent (TOEIC C1), written and spoken
German: Limited professional proficiency
Italian: Limited professional proficiency

INTERESTS & VOLUNTEERING

Co-founder and Treasurer of the Humanitarian Association "Elsass Raiders" 2022 – 2024
Founded an association to participate in Europ'Raid, a humanitarian rally delivering school supplies to an isolated orphanage in Eastern Europe. Gained experience in fundraising, sponsor acquisition, and project presentations.

Handball Club Eckbolsheim 2010 – 2023
Player for 13 years at regional excellence level.
Participated in community activities: flyer distribution, sales, and event organization.

REFERENCES

Romain Rossier, Munich Re, Head of Solutions
Rrossier@munichre.com   www.linkedin.com/in/romainrossier/

Abdenacer Makhlouf, UHA, Director of the Mathematics Department and Senior Lecturer
abdenacer.makhlouf@uha.fr