



Reacfin **Masterclass** (IA|BE CPD eligible)

Non-Life Pricing: An introduction with Python

April 2024 - Fully online

About the **training**

Non-Life insurance is facing many challenges ranging from fierce competition on the market and evolution in the distribution channels used by the consumers, to evolution of the regulatory environment.

Pricing is the central link between solvency, profitability and market shares (volume). Improving pricing practice encompasses several dimensions:

- Technical
- Competition
- Customer behaviour
- Segmentation

The aim of this masterclass is to

- Introduce different statistical and machine learning methods relevant for Non-Life Pricing
- Illustrate the different methods with concrete examples in Python (using Jupyter notebooks)

This masterclass is worth 9 Continuous Professional Development (CPD) points at the Institute of Actuaries in Belgium (IA|BE).



About the agenda

Module 1 – Introduction to statistical modeling in Python Monday 22nd April

9h-10h30

- Introduction to risk classification
- From linear to generalized linear models
- Poisson regression for claim counts
⇒ Including Python example(s)
- Gamma regression for average cost
⇒ Including Python example(s)

10h45-12h15

- Penalized regression techniques (Lasso, Ridge...)
⇒ Including Python example(s)

Module 2 – Introduction to Machine Learning in Python part 1 Tuesday 23rd April

9h-10h30

- Machine learning vs statistical modeling
- Cross-validation & Overfitting
- Regression trees
⇒ Including Python example(s)

10h45-12h15

- Random Forests
⇒ Including Python example(s)

Module 3 – Introduction to Machine Learning in Python part 2 Wednesday 24th April

9h-10h30

- Gradient Boosting Machines (GBM's)
⇒ Including Python example(s)

10h45-12h15

- Machine learning interpretability tools (PDP's, Shapley values...) + introduction to transparent AI models (EBM's, GamiNet)
⇒ Including Python example(s)

About **Reacfin Academy**

Reacfin Academy is the business line of Reacfin dedicated to continuous professional education and training in Finance, Risk Management, Portfolio Management, Actuarial Science and Data Science.



www.reacfinacademy.com

About the **speakers**



Michaël LECUIVRE

Head of Reacfin's Non-Life Center of Excellence and IA|BE qualified actuary

Expert in Non-Life (pricing, product development, reserving and risk management) and machine learning.



Xavier MARECHAL

CEO of Reacfin and IA|BE qualified actuary

Expert in Non-Life and Health insurance (pricing, product development, reserving and risk management) and machine learning.



Julie ZIANS

Senior Manager and IA|BE qualified actuary

Expert in Non-Life and Health insurance (pricing, product development, reserving and risk management) and machine learning.

Practical information



Pricing

- Participation is flexible: you can sign up for Module 1, Module 2, Module 3 or all Modules according to your needs and availability. Early bird prices are open until March 1st. Early bird prices also apply at any time to all participants of a group from the same company (min 3 participants). A 20% discount is applied if the subscription is for all modules.

	Module 1	Module 2	Module 3	3- Modules package
Early price/person	€300	€300	€300	€720
Price/person	€350	€350	€350	€840

- Cancellation is possible up to 15 days before the training. After this deadline a cancellation fee of 50% will be applied. Switching participants is possible at any time.
- Reacfin has the possibility to cancel the training if the number of participants is too low.



Place & accommodation

- This event will be hosted remotely through our training platform Livestorm.



Required material

- Attendees will be able to run the Python Jupyter notebooks using either:
 - Google Colab
 - Code will then be run on the cloud. Only a Gmail address is required.
 - Jupyter Notebook
 - Code will then be run locally. The easiest way to have Jupyter notebook locally is by installing Anaconda.



Language

- Presentation will be animated in English, but questions could also be discussed in French to facilitate the understanding of principles.



Contact

- To subscribe go to: <https://reacfinacademy.typeform.com/to/hvQ4qPeS>
- For any questions, feel free to contact us: learning@reacfinacademy.com