



# Remi BELLINA

remi.bellina@outlook.com · LinkedIn

- Engineer (Centrale Lyon, 2011)
- Fully Qualified Actuary (ISFA, 2013)
- Data Scientist (Kaggle Expert, 2016)
- +12 years of P&C consulting at Milliman
- Manager, Generali Climate Lab

Cross-functional	Machine Learning	R	Python	Advanced Excel	Data visualization	Automation	GIS
Business	Management	Technical writing	Public speaking	Teaching & training			
Technical	Climate	P&C pricing	Solvency II	Telematics	P&C reserving	Reinsurance	M&A
Languages	French (Bilingual)	English (B2 - Professional)	Italian (Basic)	Japanese (Basic)			

## Manager, Generali Climate Lab - Generali France

Apr 2025 → present · Paris (France) · Permanent contract (CDI) · 7 months

Managing a multidisciplinary team of 5-10 people (PhD students, work-study trainees, geomaticians, actuaries, data scientists, cat modeler); steering the climate roadmap from R&D to business use; productionizing zoning layers and scores, industrializing internal tools, promoting prevention practices and supporting teams and distribution networks.

### Operations

- Budget calibration of the climate forecast with drift assumptions
- Weather watch and operational response with Predict Services (targeting, SMS, loss model)
- Geocoding and georisking using GIS skills
- Governance and monthly reporting (Excel/Power BI dashboards) on budget envelope and portfolio risk
- Contribution to the Ensemble Face Aux Risques (EFAR) website and to an internal Climate App (Python/Streamlit)
- Alignment with the Group Climate Hub
- Ongoing training for teams; support to agents and underwriters

### Technical & Modeling

- Winter storm & hail: zoning layers leveraging ECMWF data, integration of individual vulnerabilities; co-developing a damage model with the Group
- Subsidence: modeling claims, recognitions, frequency and average cost; machine learning for intra-year ultimate prediction using weather data
- Flood: analysis of 'TRI' (return period), distance to watercourses and pluvial runoff (from DEM)
- Climate & health: POC with a startup; launch of a PhD (air quality and cardio-respiratory diseases)
- Coastal retreat & marine submersion: model calibration
- Claim labeling (distinguishing windstorm vs. convective storms) and building an annotated claims corpus
- Automated extraction from expert reports via an LLM-based RAG approach (circumstances, costs, vulnerabilities)
- Business support for developing an external-data enrichment API (computer vision)
- Ongoing PhD: building vulnerability (subsidence) and storm-cluster modeling
- Related topics: modeling of riots and cyber risk

### Prevention

- Set up a Climate Prevention Plan with partners/startups (flood and subsidence POCs)
- Per-peril prevention sheets
- Work on a taxonomy of preventive measures and eligibility criteria

### Communication

- Talks at conferences and events (including the Ballon Generali de Paris)
- Explaining climate scores and strategic key messages
- Managing Generali Climate Lab LinkedIn publications and coordinating content
- Academic relations (PARI Chair, etc.)

### CAT Modeling

- Oversight of CAT modeling: exposure assessment, RMS runs performed by a CAT modeler, multi-model comparison

## Senior Manager & Tech. Lead Analytics - Milliman France

Dec 2012 → Apr 2025 · Paris (France) · Permanent contract (CDI) · 12 years 5 months

Senior Manager · Dec 2020 → Apr 2025 · 4 years 5 months   Tech. Lead Analytics · Dec 2017 → Apr 2025 · 7 years 5 months   Senior Consultant · Dec 2016 → Dec 2020 · 4 years   Consultant · Dec 2012 → Dec 2016 · 4 years

Over 12 years of P&C consulting for insurers, mutuals, bancassurers, insurtechs and corporates. Led multidisciplinary teams (data scientists, data engineers, actuaries); founded and technically led the Analytics department in 2017. Cross-functional contribution on climate topics. Non-life projects: Solvency II (standard formula & internal model), ORSA, IFRS 17, pricing & telematics, reserving, reinsurance, M&A. Communications: conferences, articles, training.

### Climate Risk

- Modeling subsidence risk for clay shrink-swell (RGA) (claims, geotechnical criterion and SWI) and 2050-2100 projections; subsidence reserving for a bancassurer
- Governance support for setting up a Geo Data Hub for an insurer
- Designed an ORSA prototype for a climate insurtech and supported the authorization filing
- Geospatial analyses with open data; address geocoding via Google & BAN APIs

### Customer Value, Pricing & Telematics

- Home insurance customer value modeling using machine learning
- Churn modeling in Motor (personal & commercial) using machine learning
- Design/review of rating structures and pure premium for Motor & Home (GLM, XGBoost)
- Instant pricing and simplified questionnaire for online quotes
- Overhaul of the pricing equation for two-wheelers; creation of per-coverage zoning
- Telematics studies in Italy/France/Middle East: GPS trips, speed/accelerations/turns, crash detection; data-provider benchmarking; interactive trip visualization
- Cost assessment for PMDs/bike/e-bike coverages for a new offering using open data

### Reserving, IFRS 17 & M&A

- Deterministic non-life reserving (Chain-Ladder, loss ratio)
- Reserve reviews (claims reserves to be paid excluding prudence margin) as a second opinion and analysis of technical margins
- Automation of gain/loss analyses and reporting (HTML, PPT); dashboard deployment
- Individual reserving method using machine learning on large claims
- Valuation of P&C companies/portfolios (in-force vs new business)
- IFRS 17 projection prototypes/dashboard (Excel/Power Query/R Shiny): LIC/LRC cash flows, P&L; translation of IFRS 4 reserves to IFRS 17 under the PAA model

### Solvency II - Internal Models

- Partial internal model for real-estate surety/guarantee (LGD, PD, lapses) in Excel & MIND (C#)
- Efficient calculation of the man-made Fire CAT SCR using k-nearest neighbors (KNN)
- Risk aggregation via Gaussian copula in R for credit insurance; measurement of stochastic dependence; implicit correlations by line of business and AY; sensitivities
- Marginal modeling of premium, reserve and operational risks in credit insurance; additive and multiplicative scalings to correct drift between deterministic and stochastic
- Valuation of annuity best estimate (BEL) within an internal model; equivalent scenario; tax adjustment and recoverability test

### Solvency II - Standard Formula

- Calculation of SCR, MCR and Best Estimate (claims/premiums, gross/ceded) annually and quarterly; solo & group coverage ratios; data quality & reconciliations
- Excel/Power Query tools for assessments
- Review & development of ORSA forward-looking models
- Guidelines & training (rules, mathematical concepts)

### Reinsurance

- Built a full reinsurance accounting tool in R (quota share, excess of loss, stop loss, stability clauses, reinstatements); handling on accident/underwriting year bases
- Reserving and Solvency II calculations for a reinsurance captive

### Health

- Innovative visualizations for pharmaceutical treatment analysis (Japan)
- Analysis of the DAMIR database
- Simplified COVID modeling using the SIR model

## Corporate Finance Analyst - AXA Liabilities Managers

Apr 2011 → Nov 2012 · Paris (France) · Apprenticeship · 1 year 8 months

Apprenticeship (work-study) · Sep 2011 → Nov 2012 · 1 year 2 months   Internship · Apr 2011 → Sep 2011 · 6 months

Participation in acquisitions of reinsurance portfolios in run-off; development of a projection model incorporating economic capital projection; analysis of interest rate models (Vasicek, CIR); demonstrated the benefits of stochastic versus deterministic pricing.

## Education

ISFA (Université Lyon 1) · Master's in Actuarial Science & Financial Mathematics · French actuarial school · 2010 → 2012 · Lyon (France)

École Centrale de Lyon · Engineering degree in Applied Mathematics · Grande École; scientific and technical training · 2008 → 2011 · Lyon (France)

Lycée du Parc · Preparatory Classes MP\* (Math-Physics) · Competitive entrance exams for Grandes Écoles · 2005 → 2008 · Lyon (France)

Teaching

- **Machine learning** - CART models re-simulated in Excel, ensemble methods and gradient boosting
- **R and Python** - Notebooks, data preparation, modeling, reporting, web applications
- **Pricing** - GLMs and model performance evaluation
- **Data visualization** - best practices; ggplot2, plotly
- **Advanced Excel** - Power Query, Python in Excel, Dynamic Arrays, customization

Interests

- Home automation with Home Assistant on Raspberry Pi 4 (Zigbee network), including weather-triggered automations
- Japan (culture & travel); learning the language (beginner)

Certifications

[Deep Learning Specialization](#) · Jun 2022 · Coursera  
[Sequence Models](#) · Jun 2022 · Coursera  
[Convolutional Neural Networks](#) · May 2022 · Coursera  
[Structuring Machine Learning Projects](#) · Mar 2022 · Coursera  
[Improving Deep Neural Networks\[...\]](#) · Feb 2022 · Coursera  
[Using Python to Access Web Data](#) · Feb 2022 · Coursera  
[Cloud Computing Foundations](#) · Jan 2022 · Coursera  
[Neural Networks and Deep Learning](#) · Jan 2022 · Coursera  
[Excel Power Tools for Data Analysis](#) · Oct 2021 · Coursera

Publications

<a href="#">Modèles prédictifs et projections climatiques pour le risque de subsidence (RGA)</a> · Nov 2024 · Milliman	<a href="#">Potential data sources for life insurance AI modelling</a> · Apr 2022 · Milliman	<a href="#">Automatic extraction of COVID-19 epidemiological parameters using NLP</a> · May 2020 · Milliman	<a href="#">Predictive Analytics - Quelles applications et quelles solutions dans le secteur de l'assurance ?</a> · Mar 2016 · L'Actuariel
<a href="#">Les apports de l'open data pour les assureurs</a> · Sep 2022 · Milliman	<a href="#">Développement et perspectives des insurtechs sur le marché français</a> · Mar 2022 · Milliman	<a href="#">Applications of data science to non-life reserving</a> · Jun 2019 · Milliman	<a href="#">Machine Learning : Méthodes d'apprentissage statistique en assurance</a> · Sep 2014 · Milliman
<a href="#">Sécheresse 2022 - Analyse du risque subsidence en France</a> · Jul 2022 · Milliman	<a href="#">The use of artificial intelligence and data analytics in life insurance</a> · Nov 2021 · Milliman	<a href="#">A European insurance leader works with Milliman to process raw telematics data and detect driving behaviour</a> · May 2018 · Milliman	<a href="#">Méthodes d'apprentissage appliquées à la tarification non-vie</a> · Jan 2014 · ISFA

Conferences

<a href="#">Métier de consultant en actuariat, data science &amp; risques climatiques</a> · Jan 2025 · Aix-Marseille Université · Webinar	<a href="#">Changement climatique &amp; modélisation des risques naturels en France</a> · Mar 2023 · Institut des Actuaire · P&C Days	<a href="#">Modernisation des processus de tarification en assurance non-vie</a> · Nov 2021 · Institut des Actuaire · Actuaries Congress	<a href="#">IoT &amp; Télématicues : exploitation des nouvelles données</a> · Jun 2018 · Institut des Actuaire · Actuaire Congress
<a href="#">De la Donnée à la Décision : Open Data &amp; prédiction du risque sécheresse 2023</a> · Nov 2023 · Institut des Actuaire · Full-day event	<a href="#">Utilisation de l'Open Data dans le suivi des risques climatiques</a> · Nov 2022 · Institut des Actuaire · Full-day event	<a href="#">Modélisation du risque cyber &amp; maîtrise des méthodes analytics</a> · Jun 2021 · CAP Actuariat · Webinar	<a href="#">Big Data &amp; métiers de l'assurance (IARD)</a> · Nov 2017 · Université de Lille / IANF · Symposium
<a href="#">L'assurance face au dérèglement climatique en France</a> · May 2023 · Akur8 · Conference	<a href="#">Représentation moderne et dynamique de la data au service de la décision</a> · Jun 2022 · Institut des Actuaire · Actuaire Congress	<a href="#">Predictive Modelling for Life &amp; Health Insurance</a> · May 2021 · European Actuarial Academy (EAA) · Webinar	<a href="#">Predictive Analytics: technologies, usages, applications à l'assurance</a> · Nov 2016 · Institut des Actuaire · Full-day event
► Other conferences (22)		<a href="#">Télématique : du Big Data au Business Model</a> · Nov 2018 · Institut des Actuaire · Full-day event	<a href="#">Méthodes d'apprentissage statistique</a> · Mar 2014 · Institut des Actuaire · P&C Days