

JAKUB MIKOŁAJCZAK

Warsaw, Poland ◇ jakubmikolajczak.pl ◇ github.com/jmDarcy ◇ [LinkedIn](#)

Actuarial Analyst ◇ Econometrician ◇ Risk Modelling

PROFILE

Actuarial analyst and econometrician with experience in Life & Health insurance, pension actuarial consulting and financial-services audit. Currently working with Prophet actuarial models, cash-flow projections and model validation in a German-speaking international environment. Combines actuarial practice with quantitative training in econometrics, risk modelling and financial mathematics.

PROFESSIONAL EXPERIENCE

ERGO Technology & Services

Jan 2026–present

Junior Actuarial Consultant (Life & Health Insurance)

Warsaw, hybrid

- Test and validate Prophet actuarial models used for cash-flow projections.
- Analyse model outputs, identify inconsistencies and document validation tests and results.
- Work in an international environment with German as the primary professional communication language.

Mercer

May 2025–Dec 2025

Junior Actuarial Analyst with German (Pensions)

Warsaw

- Supported actuarial valuations of employee benefits and pension obligations under HGB and IFRS.
- Prepared calculations for retirement and disability benefits based on plan documentation and adjustment rules.
- Integrated and reconciled data from external sources for actuarial valuation workflows.
- Worked with Retirement Studio, Excel/VBA and German-language documentation.

EY

Sep 2024–May 2025

Global Financial Services Audit Intern

Warsaw

- Participated in audits of financial institutions, including banks, insurers and investment funds.
- Automated trial-balance transformations and data consolidation using Excel and Alteryx.

EDUCATION & QUALIFICATIONS

SGH Warsaw School of Economics

Oct 2025–Jul 2027

MSc, Advanced Analytics - Big Data and Machine Learning. Quantitative profile covering stochastic processes, mathematical modelling, Bayesian methods, credit scoring, survival analysis, data mining and analytical programming in Python, R, SAS and SQL.

SGH Warsaw School of Economics

Oct 2022–Jun 2025

BSc, Quantitative Methods in Economics and Information Systems. Specialisation: quantitative methods in finance. Bachelor thesis on forecasting and backtesting investment-fund portfolio risk using Markov-switching models, defended with grade 5.0 / highest grade.

KNF actuarial exams: Economics passed - 1 of 9 actuarial exams completed.

SELECTED PROJECTS

Investment-fund portfolio risk modelling. Bachelor thesis: construction of conservative and aggressive portfolios, analysis of daily returns, estimation of conditional-volatility models, and portfolio risk forecasting and backtesting in R. [GitHub](#)

Portfolio optimisation. Non-classical optimisation project: analysis of the Markowitz portfolio problem with a cardinality constraint, comparison of simulated annealing, genetic algorithm and particle swarm optimisation, and risk assessment in Monte Carlo scenarios. [GitHub](#)

Telematics insurance. Demonstrational usage-based insurance project: processing synthetic driver events in a Kafka/Spark architecture, constructing risk features, fitting an interpretable claim-frequency GLM and designing real-time operational decision logic. [GitHub](#)

Airline passenger satisfaction classification. Data-mining project on binary passenger-satisfaction classification: preprocessing with scikit-learn pipelines, comparison of logistic regression, Random Forest, HistGradientBoosting and MLP, and evaluation with classification metrics, ROC/PR curves and feature-importance analysis. [GitHub](#)

SKILLS

Actuarial / finance: Prophet, actuarial model testing and validation, cash-flow projections, Life & Health insurance context, employee-benefit and pension-obligation valuation, HGB/IFRS

Programming / data: R, Python, MATLAB, SQL, Excel/VBA, Alteryx, Git/GitHub, LaTeX, Typst

Quantitative analytics: econometrics, time-series modelling, machine learning, risk forecasting and backtesting, survival analysis, credit scoring, optimisation, Monte Carlo simulation

Languages: Polish – native; English – fluent; German – professional working language