Curriculum Vitae

Mateusz Gomulski

Data Scientist

KEY FACTS

Personal details

Mateusz Gomulski
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Contact details

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github.com/GML22
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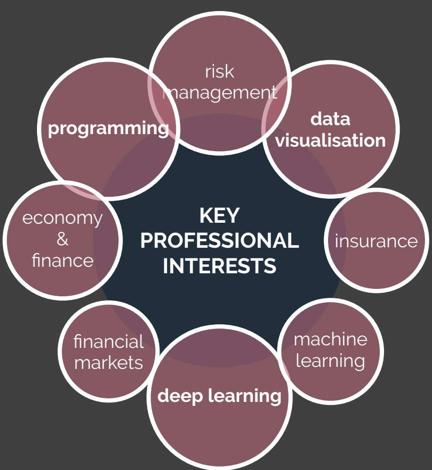
Areas of specialisation

Machine Learning # Market Risk
Programming # Data Visualisation

SKILLS

IT & programming

- MATLAB
- R
- SQL
- VBA
- Python
- LaTeX
- javascript
- Git
- QGIS
- Bloomberg Terminal



Languages

Polish	C2	Mother tongue
English	C1	●●●●●
German	A2	●●
Chinese	A1	●

Short Resumé

2023–Present	**Senior Data Scientist in the Abakus II project** PZU Group	
2022–2023	**Senior Data Scientist in the Risk Office** PZU Group	
2021–2022	**Risk Modelling Manager** Generali Investments TFI S.A	
2018–2021	**Data Scientist in the Risk Office** PZU Group	
2014–2017	**Senior Risk Management Specialist** Generali Poland Group	
2012	**Intern in the Individual Products Office** PZU Group	

Education

2019-2020	**Deep Neural Networks - Applications in Digital Media** Postgraduate studies · Graduation with honours Warsaw University of Technology
2015-2017	**Computer Engineering** Extramural engineering studies Warsaw University of Technology
2012-2015	**Computer Science and Econometrics** Full-time Master's degree studies University of Warsaw
2012-2015	**Computer Science** Full-time engineering studies Warsaw University of Technology
2009-2012	**Interdisciplinary Economic-Managerial Studies** Full-time undergraduate studies University of Warsaw

Courses & Trainings

2023	Warsaw	SQL language in Oracle Databases
2022	Warsaw	Advanced workshops on reviewing bond valuation models
2022	Warsaw	Interest rate derivatives
2016	Trieste	Statistical Learning and Data Analytics
2016	Trieste	Accounting for Insurance Contracts and Financial Instruments
2016	Milan	Solvency II Standard Formula Opening Meeting 2007
2015	Trieste	EBS 2.0. - Internal model of Generali Group under Solvency II regime
2014	Warsaw	SAS Data Mining Certificate Program

Hobbies

Movies
Travels
Sport
Genealogy
Smart Home

Achievements

2013	Winner of the contest for the best econometrics model of the Faculty of Economic Sciences of the University of Warsaw
2013	Finalist of the 9th edition of Stock Exchange Academy of the Students Research Circle: The Investors Club of the Warsaw School of Economics
2012	Finalist of the 9th edition of the Career Program of the Polish Business Roundtable

Strenghts

creativity · leadership · critical thinking · task-motivated · open-minded

PORTFOLIO

1. gh/GML22/GML-Net

Convolutional Neural Network with U-Net architecture designed to solve the problem of building detection in RGB aerial imagery

python # pytorch # deep-learning # u-net # resnet # image-recognition

2. gh/GML22/PostCodesMaps

Python application that creates postcode maps in Poland based on a set of address points from the Polish National Register of Boundaries Database

python # javascript # sqlalchemy # numpy # scipy # leafletjs # gdal

3. gh/GML22/GeocoderPL

Python application that can be used to geocode address points in Poland and display basic information about the building associated with a given address

python # sql # search-engine # numpy # pyqt5 # superpermutation

4. gh/GML22/Anti-Plag-Java

Java application that detects plagiarism by comparing source codes of projects

java # bst-tree # plagiarism-detect

5. gh/GML22/Fed_QE_Model

Econometric analysis of the effectiveness of unconventional monetary policy of the Federal Reserve during the economic crisis - analysis for the period of 2008-2016

R # stata # var # svensson

6. gh/GML22/Oscars_Model

Econometric analysis of economic and non-economic factors affecting the probability of winning an Oscar

stata # lpm # logit # probit

7. gh/GML22/VBA_Interactive_Map

Interactive map of Poland implemented in an Excel spreadsheet showing data on the population of Poland

vba # excel # interactive-map

Full Resumé

09.2023–Present **Senior Data Scientist in the Abakus II project** – **PZU Group**

– Technical leader of the emerging internal model, ensuring quality and consistency of Abakus II implementation, proper documentation and versioning.
– Lead architect of the technical implementation of the project focusing on maintaining the highest standards of object-oriented parallel programming.
– Key developer of the simulation engine used to calculate premium risk within the project.
– Main author of the dependency modelling and reinsurance overlaying modules of the Abakus II project.

06.2022–08.2023 **Senior Data Scientist in the Risk Office** – **PZU Group**

– Construction, maintenance and development of statistical, econometric and stochastic models used for calculation and reporting of market risk - mainly the Internal Market Risk Model.
– Construction, maintenance and development of tools supporting the calculation and visualisation of the flood risk in Poland, in particular the Internal Flood Risk Model and the Interactive Map of Flood Risk.
– Construction, maintenance and development of Internal Operational Risk Model used to calculate operational risk in the PZU Group.

12.2021–05.2022 **Risk Modelling Manager** – **Generali Investments TFI S.A.**

– Construction, maintenance and development of valuation models of financial instruments not quoted on active markets (in particular corporate bonds and derivatives) used in the process of daily valuation of all assets managed by Generali Investments TFI and for the purpose of monthly analyses carried out for the needs of the Valuation and Risk Committee.
– Construction, maintenance and development of risk management models used for measuring and monitoring market risk for the needs of the Valuation and Risk Committee.
– Construction, maintenance and development of financial models used for calculating reference rates for charging fees.

01.2018–11.2021 **Data Scientist in the Risk Office** – **PZU Group**

– Construction, maintenance and development of statistical, econometric and stochastic models used for calculation and reporting of market risk.
– Construction, maintenance and development of statistical model used for calculation of expected credit losses on debt securities, as required by the IFRS 9.
– Construction, maintenance and development of stochastic model used for the calculation of the maximum gross loss in a natural catastrophe scenarios.

06.2014–12.2017 **Senior Risk Management Specialist** – **Generali Poland Group**

– Quarterly and annual calculations of the solvency capital requirement (SCR) in parts related to market risk, according to the standard formula and Generali Group internal model.
– Preparation of calculations and analyses for the needs of the Assets and Liabilities Committee and Risk Committee.
– Co-authoring the supervisory reports in the Solvency II regime: ORSA, QRT, RSR and SFCR - in the market risk sections.

06.2012–09.2012 **Intern in the Individual Products Office** – **PZU Group**

– Implementation of Excel VBA application to determine the indicators of fundamental and technical analysis of selected listed companies, indices, currencies and commodities for the purpose of constructing structured products in the PZU Group.

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