



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 specialization

Machine Learning # Market Risk
Programming # Data Visualisation

SKILLS

IT & programming



Languages

Language	Level
Polish	C2
English	C1
German	A2
Chinese	A1
Mother tongue	Native

SHORT RESUMÉ

- | Year | Position | Company |
|--------------|--|------------------------------|
| 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

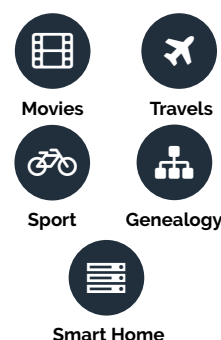
- | Year | Program | Institution |
|-----------|--|---|
| 2019–2020 | Deep Neural Networks - Applications in Digital Media | Postgraduate studies · Graduation with honours
Warsaw University of Technology |
| 2015–2017 | Computer Engineering | Extramural engineering studies
Warsaw University of Technology |
| 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

- | Year | Location | Course/Training |
|------|----------|--|
| 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



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 |

STRENGTHS

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 of regions 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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I agree to the processing of personal data provided in this document for realising the recruitment process pursuant to the Personal Data Protection Act of 10 May 2018 (Journal of Laws 2018, item 1000) and in agreement with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).