



Curriculum Vitae

# Mateusz Gomulski

Data Scientist

## KEY FACTS

### Personal details

Mateusz Gomulski  
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### Contact details

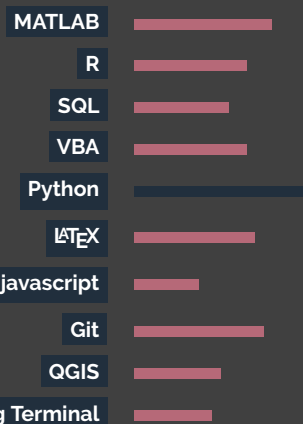
-  
 github.com/GML22  
 mateusz.gomulski@gmail.com  
 linkedin.com/in/mateusz-gomulski

### Areas of specialisation

# Programming # Machine Learning  
# Data Visualisation # Risk Management

## SKILLS

### IT & programming



### Languages

Language	Level
Polish	C2
English	C1
German	A2
Chinese	A1

Mother tongue

## SHORT RESUME

- 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
- 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

## 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 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 RESUME

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 high 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**

- 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 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 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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