

CURRICULUM VITAE

Name: Miroslav Mlynárik
Title: Mgr.
Date of Birth 12.7.1985
Address: Martinčekova 13, 821 01, Bratislava
Cell Phone: +421 904 920 044
E-mail: miroslav.mlynarik@gmail.com



Education:

2007 - 2009 Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava, Slovakia
Degree: Master in Economic and Financial Mathematics
Master Thesis: *Calibration of One-Factor Short-Rate Models Using the Analytic Approximation Formula For the Bond Price*

2004 – 2007 Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava, Slovakia
Degree: Bachelor in Economic and Financial Mathematics
Bachelor Thesis: *DEA Models – Assurance Region Model*

2000 – 2004 Gymnázium Grosslingová (Grammar school), Bratislava, Slovakia
Specialization: Mathematics

Employment record:

December 2023 – June 2023

Zhiva, j.s.a (<https://zhiva.sk/>)

Junior Prompt Engineer (Part-time research job)

Project & responsibilities:

- Automation of evaluation of users' interactions with virtual health assistant with respect to five qualitative criteria using OpenAI GPT
- Prompt testing, automated generation of MS Excel outputs
- Codebase maintenance (currently being a sole developer)

January 2022 –

U.S. Steel a. s. Košice, Slovakia

Data Scientist & Backend (Django) developer

Projects:

- Blast furnace hot metal temperature and silicon content forecasting:

- Cooperation within the team of three data scientists on end-to-end project delivery from problem definition and data extraction to model deployment and frontend development
 - Training embedding (feature extraction) and prediction models using customized neural networks based on several recent research papers
 - Participation in review of other team members' code to ensure stable quality of codebase throughout the project
- Scrap charge optimization model for steel plant:
 - Development of new features on backend and frontend side of the system, involving ordinal regression and linear optimization modules
 - Building internal REST API serving the model output using Django REST Framework
 - Participation in review of other team members' code

Technologies used:

- Python – Django, Django REST Framework, Dash, Dramatiq, Redis
- Docker, Kubernetes
- PyTorch, Pytorch Lightning
- Azure Devops / CI/CD pipelines
- WSL
- Bash
- Experimenting with Rust extensions for improving performance of model back testing/backfill feature

January 2021 – December 2021

Simplify, s.r.o, Brno, Czechia

Data Scientist

Successfully delivered machine-learning projects:

- Perfume sampling campaigns optimization for Notino online shop, increasing the conversion rate from 1% to 5%, using the following models:
 - Customer segmentation
 - Probability of conversion of the campaign transaction
 - Implicit feedback-based recommender system
- Approximate string matching feature for the Accurity Data intelligence platform using TF-IDF vectorization, cosine similarity and string distance metrics

Technologies used:

- Python,
- ML libraries: numpy, pandas, matplotlib, sklearn, keras, implicit
- API-related libraries: FastAPI, Pydantic, SQLAlchemy, SQLModel, SQLAlchemy
- Swagger/OpenAPI specification
- Docker
- Gitlab

July 2019 – December 2020

Kiwi.com, Palachovo náměstí 4, Brno, Czechia

Data Scientist

Responsibilities:

- Binary classification and costs prediction for the guarantee cases occurrence
- Charge-back costs prediction
- Cost-per-click attribution
- Bookings and customers segmentation using clustering methods

Other successfully completed projects:

- Development and deployment of Looker data model for guarantee costs domain

Technologies used:

- Python,
- ML libraries: numpy, pandas, matplotlib, sklearn, statsmodels, xgboost, catboost
- PostgreSQL, BigQuery
- Gitlab
- Airflow
- Looker, GoodData
- Docker

August 2014 – June 2019

**UniCredit Bank Czech Republic and Slovakia, a.s. Bratislava, Slovakia
Senior Credit Risk Modelling Specialist**

Responsibilities:

- Data preparation and consolidation
- Design, statistical development and documentation of credit risk measurement models (PD, LGD, EAD) for corporate and retail portfolios
- Ongoing monitoring and regular validation of existing models
- Analysis and simulation of RWA/EL impacts
- Cooperation on technical implementation of models and underlying data infrastructure
- Focus on achieving ongoing compliance with IRB requirements

Projects:

Development & validation activities –

- Financial PD model for Mid-Corporate clients
- Qualitative PD model for Small Business clients
- LGD and EAD models for Retail and Corporate clients

Technologies used:

- SAS

June 2009 – July 2014

**PreFIS a.s., Bratislava, Slovakia
Functional consultant for Wallstreet Suite Treasury Management System**

Responsibilities:

- Scoping and business analysis of the client's requirements
- Advice, design and optimization of the solutions/functionalities
- Implementation of the functionalities in Wallstreet Suite system
- Setup of Wallstreet Suite system (FO, MO, BO, Accounting)
- Troubleshooting of issues and calculations errors
- System testing and client's testing process support (Unit / Acceptance)
- Data migration – support and testing

- Customer Specific Enhancements Development (SWIFT, Interfaces, ...)

Projects:

January 2014 – July 2014

DSTA – Dutch State Treasury Agency, Hague, Netherlands

Functional consultant for the upgrade project

March 2010 – August 2011

ARDAL – Debt and Liquidity Management Agency, Bratislava, Slovakia

Main functional consultant for the upgrade project

Other Assignments:

June 2009 – ongoing

NBS – National Bank of Slovakia, Bratislava

Permanent support team member

Technologies used:

- CVS

August 2008 – March 2009

Slovenská sporiteľňa a.s., Bratislava, Slovakia (Member of Erste Group)

Student job for the Market Research Department

Responsibilities:

- Macroeconomic data preparation
- Regular client report translation (Slovak/English)

Language skills:

Slovak	– Native speaker
English	– Fluent
German	– Basics
Spanish	– Basics

IT skills:

MS Office	– Advanced
Matlab	– Intermediate
SQL	– Advanced (Analytics level)
Python	– Intermediate (Data science level)
GCP/Big Query	– Basics/Intermediate
Looker/BI	– Intermediate (User-level)
Git, Docker	– Intermediate (User-level)
Airflow	– Intermediate (User-level)
SAS	– Advanced
C++	– Basics
Driving licence	– B

Interests:

Data science, Financial markets, Tennis, Latin dances, Hiking, Theatre