Nikita Kozodoi

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- https://linkedin.com/in/kozodoi
- https://kozodoi.me (portfolio & ML blog)
- https://github.com/kozodoi

Education

04/2018 – present **PhD in Information Systems**, *Humboldt University*, Berlin.
Research on machine learning and deep learning applications for credit risk analytics.

10/2015 – 12/2017 **M.Sc. in Economics and Management Science**, *Humboldt University*, Berlin, GPA: 1.30.
Focused on business analytics, data science and applied predictive analytics.

09/2014 – 12/2016 **M.Sc. in Economics**, *Higher School of Economics*, Moscow, GPA: 9.58 of 10 (1.21).
Focused on econometrics and time series analysis. Diploma with honors.

09/2010 – 06/2014 **B.Sc. in Economics**, *Higher School of Economics*, St. Petersburg, GPA: 9.38 of 10 (1.31).
Focused on econometrics and marketing. Diploma with honors.

Work Experience

04/2018 – present **Data Science Research Associate**, *Monedo / Humboldt University*, Berlin.
- developing solutions to mitigate the impact of sampling bias on machine learning models
- investigating profit-fairness trade-off in credit scoring with fair machine learning
- performing cost-driven feature selection with multi-objective evolutionary algorithms
- teaching machine learning and supervising M.Sc. dissertations on research-related topics

07/2016 – 03/2018 **Research Assistant**, *Max Planck Institute for Human Development*, Berlin.
- collected and prepared a large number of marketing data sets
- benchmarked managerial heuristics against machine learning algorithms
- analyzed factors affecting the predictive performance

10/2014 – 12/2015 **Research Assistant**, *Institute for Statistical Studies at Higher School of Economics*, Moscow.
- preprocessed survey data for statistical analysis
- conducted the econometric analysis of survey data

Technical Skills

Programming: Python, R, SQL (interm)
IDE: VS Code, Atom, Jupyter, Google Colab
Deployment: AWS SageMaker
MLOps: Neptune.ai, SageMaker Model Monitor
Collaboration: Git, Slack, Trello, Jira
Documents: LaTeX, MS Office, Apple iWork

Packages	**Python:** sklearn, pytorch, tensorflow, xgboost, lightgbm, hyperopt, numpy, pandas, matplotlib **R:** mlr, caret, tidyverse (dplyr, ggplot2), data.table, xgboost, h2o, glmnet, plotly, knitr
Algorithms	**ML:** Boosting (XGB, LGB), Tree-based (RF, DT), Linear (Logreg, OLS), KNN **DL:** CNNs, RNNs (LSTM, GRU), Transformers (BERT, GPT, vision), Autoencoders
Applications	**Supervised ML:** classification, regression, time series forecasting **Unsupervised ML:** anomaly detection, clustering, dimensionality reduction **Computer vision:** image classification, object detection, image captioning **Natural language processing:** sentiment analysis, text classification, text generation

Awards and Achievements

2018 – 2021 Kaggle Competitions Master (14 medals). Top-1% in Competitions, Notebooks and Discussion

2014 – 2017 Awarded with Oxford-Russia Fund (2014/15) and E-Fellows.net (2016/17) scholarships

2016 Prize-winner of the student research paper competition in Computer Science held by HSE

Certificates

06/2020 **Udacity Deep Learning Nanodegree:** building CNNs, RNNs and GANs in PyTorch

05/2020 **Udacity Machine Learning Engineer Nanodegree:** deploying ML and DL models in AWS

Software Packages

09/2019 – present **fairness**: R package for calculating and visualizing fair ML metrics (>11k total downloads)

07/2020 – 02/2021 **dptools**: Python package with helper functions for data processing and feature engineering

Selected ML Competitions

Computer vision **Cassava Leaf Disease Classification**: top-1% (3900 teams)

Computer vision **SIIM-ISIC Melanoma Classification**: top-1% (3314 teams)

Tabular data **Google Analytics Revenue Prediction**: top-2% (3611 teams)

Tabular data **IEEE-CIS Fraud Detection**: top-3% (6381 teams)

Time series **PLAsTiCC Astronomical Classification**: top-5% (1094 teams)

Solution writeups and code are available at https://kozodoi.me/kaggle

Selected Publications

03/2021 N. Kozodoi, J. Jacob, and S. Lessmann
Fairness in Credit Scoring: Assessment, Implementation and Profit Implications
arXiv:2103.01907 (https://arxiv.org/pdf/2103.01907.pdf)

04/2020 N. Kozodoi, P. Katsas, S. Lessmann, L. Moreira-Matias and K. Papakonstantinou
Shallow self-learning for reject inference in credit scoring
ECML PKDD 2019 Proceedings, pp. 516-532 (https://doi.org/10.1007/978-3-030-46133-1)

09/2019 N. Kozodoi, S. Lessmann, K. Papakonstantinou, Y. Gatsoulis and B. Baesens
A multi-objective approach for profit-driven feature selection in credit scoring
Decision Support Systems, 120 (2019), pp. 106-117 (https://doi.org/10.1016/j.dss.2019.03.011)

Languages

English **Proficient user (C2)** *IELTS band 8.0 certificate*

German **Advanced user (C1)** *Language courses at HU Berlin*

Russian **Native speaker**

Skills and Interests

Key Skills
- Passionate about machine learning and data
- Strong motivation to learn and improve
- Excellent presentation skills
- Good at meeting deadlines

Hobbies Football, beach volleyball, piano, scootering

Berlin, 29.05.2021