



Nikita Kozodoi

ML researcher with expertise in tabular and computer vision problems

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◦ <https://kozodoi.me> (portfolio & ML blog)

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Experience

- 04/2018 – present **Data Science Research Associate**, *Monedo / Humboldt University*, Berlin.
- developed self-learning framework for bias mitigation to improve model profitability by up to 3%
 - reduced data acquisition costs by up to 25% by applying multi-objective feature selection techniques
 - published 5 papers with 61 citations and delivered 5 conference talks based on project results [\[Papers\]](#)
- 09/2018 – 08/2020 **Project-Based Data Scientist**, *Simply Rational*, Berlin.
- identified customer segments to facilitate future targeting and predicted segments from incomplete data
 - analyzed results of A/B tests and identified suitable treatments for different customer groups
- 07/2016 – 03/2018 **Research Assistant**, *Max Planck Institute for Human Development*, Berlin.
- benchmarked ML algorithms against managerial heuristics in marketing problems

Education

- 04/2018 – present **PhD in Information Systems, Machine Learning**, *Humboldt University*, Berlin.
Research on Machine Learning in credit scoring. Teaching Data Science. Supervising M.Sc. dissertations.
- 10/2015 – 12/2017 **M.Sc. in Economics and Management Science**, *Humboldt University*, Berlin, GPA: 1.30 (A).
Focused on Machine Learning and Data Science. Double-degree program with HSE Moscow.
- 09/2010 – 06/2014 **B.Sc. in Economics**, *Higher School of Economics*, St. Petersburg, GPA: 1.31 (A).
Focused on Statistics, Time Series and Econometrics. Top-1 in the 4-year student grade rating.

Certificates

- 06/2020 **Deep Learning Nanodegree**, *Udacity*. Implemented CNNs, RNNs and GANs in PyTorch. [\[Certificate\]](#)
- 05/2020 **Machine Learning Engineer Nanodegree**, *Udacity*. Deployed ML/DL models in AWS Sagemaker. [\[Certificate\]](#)
- Further courses with certificates: Data Structures, Algorithmic Toolbox, SQL for Data Science.

Selected ML Projects

- 2020 – present **Machine Learning Blog**. Implementing and hosting ML blog with over 7.2k monthly views.
Publishing ML/DL tutorials, data science project overviews and Kaggle competition solutions. [\[Blog\]](#) [\[GitHub\]](#)
- 05/2021 – 08/2021 **Text Readability Prediction**. Developed a comprehensive PyTorch pipeline for text complexity prediction.
Built an interactive web app. Reached top-9% in the Kaggle competition. [\[GitHub\]](#) [\[Web app\]](#)
- 03/2021 – 06/2021 **Image-to-Text Molecular Translation**. Translated molecule images into chemical formulas with PyTorch.
Implemented a CNN-LSTM architecture for image captioning. Reached top-5% in the Kaggle competition. [\[GitHub\]](#)
Kaggle Master. Won 17 competition medals. Top-1% in Competitions, Notebooks and Discussion. [\[Profile\]](#) [\[Portfolio\]](#)

Selected ML Publications

- 06/2021 **Fairness in credit scoring: Assessment, implementation and profit implications**, *European Journal of OR*.
Benchmarked fair ML algorithms and analyzed the profit-fairness trade-off [\[Paper\]](#) [\[GitHub\]](#)
- 04/2020 **Shallow self-learning for reject inference in credit scoring**, *European Conference on ML and PKDD*.
Proposed a self-training based approach for bias correction in credit scoring [\[Paper\]](#) [\[Slides\]](#)
- 09/2019 **A multi-objective approach for profit-driven feature selection in credit scoring**, *Decision Support Systems*.
Developed a profit-driven feature selection framework using multi-objective genetic algorithms [\[Paper\]](#)

Technical Stack

Tools	Python, R, SQL (<i>interm</i>)	VSCode, Jupyter	AWS (Sagemaker, EC2), Neptune.ai	Git, Trello
Packages	Pandas, NumPy	Scikit-learn, XGBoost, LightGBM, Optuna	Matplotlib, Seaborn	
	PyTorch, TensorFlow (<i>interm</i>)	Timm, Albumentations	Huggingface	

Further Skills

- Languages **English** (C2), **German** (C1), **Russian** (native)
- Key skills
- Passionate about machine learning and data
 - Excellent presentation skills [\[Public talks\]](#)
 - Inspired by using ML to improve decision-making
 - Scientific mindset and strong motivation to learn