

Nikita Kozodoi

ML researcher & PhD candidate working on the frontier of research and business. With certified AWS ML expertise, practical experience in different ML areas, and strong communication skills, I am enthusiastic about using AI to improve decision-making. My recent projects focus on fair ML for credit scoring and DL for computer vision and NLP tasks.

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

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Experience

- 04/2018 – present **Data Science Research Associate**, *Monedo / Humboldt University*, Berlin.
- developed sample bias mitigation algorithms improving model profitability by up to 3%
 - investigated the profit-fairness trade-off in credit scoring using a variety of fair ML methods
 - published 5 ML papers with over 60 total citations and delivered 5 conference talks [\[Papers\]](#)
- 09/2018 – 08/2020 **Project-Based Data Scientist**, *Simply Rational*, Berlin, freelance.
- identified customer segments and prototyped segment prediction models from incomplete data
 - determined suitable treatments from A/B tests results and presented findings to corporate clients
- 07/2016 – 03/2018 **Research Assistant**, *Max Planck Institute for Human Development*, Berlin.
- benchmarked ML algorithms against managerial heuristics and analyzed key performance drivers

Education

- 04/2018 – 03/2022 **Ph.D. in Machine Learning, Information Systems**, *Humboldt University*, Berlin.
Research on ML for credit scoring. Teaching ML and supervising student theses. Graduation: 03/2022.
- 10/2015 – 12/2017 **M.Sc. in Economics, Quantitative Methods**, *Humboldt University*, Berlin, GPA: 1.30 (A).
Focused on Data Science and Predictive Analytics. Double-degree program with HSE Moscow.
- 09/2010 – 06/2014 **B.Sc. in Economics**, *Higher School of Economics*, Moscow, GPA: 1.31 (A).
Focused on Statistics and Econometrics. Top-1 in the 4-year student rating. Diploma with Honors.

Certifications

- 01/2022 **AWS Certified Machine Learning**, *Amazon*. Training, tuning and deploying ML models on AWS. [\[Certificate\]](#)
- 06/2020 **Deep Learning Nanodegree**, *Udacity*. Implemented CNNs, RNNs and GANs in PyTorch. [\[Certificate\]](#)
- 05/2020 **Machine Learning Engineer Nanodegree**, *Udacity*. Deployed ML models on AWS SageMaker. [\[Certificate\]](#)
- Courses with certificates: Data Structures, Algorithmic Toolbox, SQL for Data Science.

Selected ML Projects

- 05/2021 – 08/2021 **Text Readability Prediction**. Developed a PyTorch pipeline for text complexity prediction with transformers. Deployed an interactive web app for custom text scoring. Placed top-9% in the Kaggle competition. [\[App\]](#) [\[GitHub\]](#)
- 03/2021 – 06/2021 **Image-to-Text Molecular Translation**. Translated molecule images into chemical formulas with PyTorch. Built a CNN-LSTM architecture for image captioning. Placed top-5% in the Kaggle competition. [\[GitHub\]](#)
- 09/2019 – 04/2021 **Fairness: Package for Fair ML**. Building and maintaining an R package with over 16k total downloads. Implemented calculation and visualization of 11 fairness metrics and provided documentation. [\[Blog post\]](#) [\[GitHub\]](#)
- 09/2018 – present **Kaggle Master**. Won 18 competition medals. Top-1% in Competitions, Notebooks and Discussion. [\[Profile\]](#)

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. [\[Paper\]](#) [\[Meetup talk\]](#)
- 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. [\[Paper\]](#)
- 06/2020 – present **ML Blog**. Publishing ML/DL tutorials and project overviews. Reached over 7k monthly page views. [\[Blog\]](#)

Technical Stack

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

Soft Skills

- Languages **English (C2), German (C1), Russian (native)**
- Key skills
- Rich experience of working in team projects
 - Excellent presentation skills [\[Public talks\]](#)
 - Scientific mindset and strong motivation to learn
 - Attention to detail and critical thinking