

# Anton Zakharenkov

## MACHINE LEARNING ENGINEER

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Moscow, relocation, remote



### WHY ME

MSc in Computer Science and Kaggle Competitions Master.  
Focused on developing end-to-end pipelines for anomaly detection using Computer Vision and Time Series analysis. Have a passion for combining novel scientific research with actionable engineering implementations that enable new products and experiences.



### WORK EXPERIENCE

Nov 2018 **Conundrum (Cambridge based startup)**  
- Nov 2020 Computer Vision / Time Series / ML Engineer

- Built a system for visual defect assessment based on synthetic data, GANs and state of the art Computer Vision techniques.
- Developed several PyTorch models for deep unsupervised anomaly segmentation based on time series sensor data.
- Implemented various features in Conundrum Auto ML engine.
- Created more than 5 successful PoC Machine Learning models.

Oct 2017 **Sberbank (Financial services company)**  
- Nov 2018 Big data / ML on graphs / Data Scientist

- Developed models for analyzing the client base of companies: life cycle, outflow, overflow and retention for SberAdviser app
- Created a competitor search algorithm for small businesses using topic modelling techniques and graph embeddings

Oct 2016 **Laboratory of experimental economics, MIPT**  
- May 2017 Time Series / Research / Data Scientist

- Built a system for analyzing stabilografic time series data obtained as a result of economic experiments.

The analysis results have been published in several scientific



### ACADEMIC RESEARCH

#### „Tropical geometry and neural networks“

Master Thesis, Higher School of Economics

- Created tropical algebra python framework; implemented conversion algorithms between ReLU neural networks and tropical rational functions; investigated decision boundary of ReLU networks from tropical perspective.
- Blog post - [git.io/tropical-deep-learning](https://git.io/tropical-deep-learning)
- Scientific adviser - PhD. Gleb Pogudin (École Polytechnique)

#### „Adaptive regularization in topic modeling“

Bachelor Thesis, Computing Centre of the Russian Academy of Science

- Applied methods of derivative-free optimization, bayesian optimization and machine learning for automatic selection of regularization coefficients in ARTM model.
- Scientific adviser - Dr. Konstantin Vorontsov (Moscow Institute of Physics and Technology)



### TECH SKILLS

Programming: [Python](#) · [Bash](#) · [SQL](#) · [Scala](#)  
Research: [PyTorch](#) · [LightGBM](#) / [CatBoost](#) · [NumPy](#) / [Pandas](#) / [Scikit-learn](#) · [Jupyter](#)  
Big Data: [Apache Spark](#) · [Hadoop](#)  
Deployment: [Git](#) · [Docker](#) · [TensorRT](#)



### PERSONAL SKILLS

Soft Skills: [Adaptability](#) · [Responsibility](#) · [Attention to detail](#)  
[Problem-solving](#) · [Critical thinking](#) · [Teamworking](#) · [Mentoring](#)

Languages: [Russian](#) Native  
[English](#) Advanced, C1  
[German](#) Beginner, A2  
[Polish](#) Beginner, A1



### EDUCATION

2018 - 2020 **Higher School of Economics**  
Moscow, Russia

- MSc in Computer Science
- Specialization in Data Science

2013 - 2018 **Moscow Institute of Physics and Technology**  
Moscow, Russia

- BSc in Applied Math and Physics
- Specialization in Data Science

2012 - 2013 **The Advanced Educational Scientific Center (faculty) – Kolmogorov's boarding school of Moscow State University**  
Moscow, Russia



### ACTIVITIES & COMPETITIONS

#### Kaggle Master of Competitions

- [kaggle.com](https://kaggle.com) [IEEE-CIS Fraud Detection](#)  
tabular data, binary classification, 18/6381, Top 1%
- [kaggle.com](https://kaggle.com) [Severstal: Steel Defect Detection](#)  
manufacturing, image data, segmentation 31/2431, Top 2%
- [kaggle.com](https://kaggle.com) [Santa's Workshop Tour 2019](#)  
combinatorial optimization, 43/1620, Top 3%

#### Otus.ru Teaching and Mentoring

Lecturer on the courses „Machine Learning“ and „Advanced Machine Learning“ on the education platform otus.ru