

Yuri Lyu

Data Scientist

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Experience

HSE Course Projects

Data Scientist

Moscow, Russia

December 2021 - July 2024

- **Chaotic Time Series Forecasting**

- Applied the 4th order Runge-Kutta method on the Lorenz system to generate a chaotic time series for future work.
- Utilized clustering methods such as DBSCAN, AdaBoost, KMeans, and Wishart clustering technique.
- Then aimed to find unpredictable points using the best method.

- **Clients Clustering**

- Used PCA to reduce data dimensionality.
- Applied KMeans and Random Forest for client segmentation.
- Identified and described 4 main segments.

- **Market Stability Simulator**

- Developed an agent-based model for market simulation, implementing agents as separate classes.
- Created a Limit Order Book to record operations and conduct transactions.
- Determined agent parameters causing flash crashes in the market.

- **Image Retrieval**

- Constructed a dataset of pictures and metadata using parsing and scraping tools.
- Fine-tuned a VGG16 and BERT models.
- Achieved a solid Mean Average Precision of 0.8 on custom dataset.

- **AI-Powered ESG Rating of Russian Companies**

- Compiled a dataset of companies' information collected from websites using parsing tools.
- Analyzed ESG topics and companies' information using rule based dictionaries.
- Created a feature matrix and predicted ESG ratings using traditional machine learning with grid search optimization.
- Achieved an F1-score of 0.6.

Education

National Research University Higher School of Economics & University of London

Bachelor of Applied Mathematics and Informatics

2020 – 2024

Bachelor of Data Science and Business Analytics

2021 – 2024

Skills

Deep Learning: transformers, torch, tensorflow, spacy, nltk

Machine Learning: sklearn, catboost, xgboost, lightgbm

Data Workflow: datasets, pandas, numpy, SQL

Programming: Python, Bash, SQL

Deployment: Github

Extra: LaTeX, A/B testing

Languages: Russian, English (fluent)