

Keywords

python, optimization, machine learning, data science, computer vision, NLP, statistics, numpy, pandas, PostgreSQL, ClickHouse, scipy, transformers, pytorch, C++, Rust, Docker.

Experience

2021 Apr – **Data Science intern @ Hypr**, Saint-Petersburg

2021 Jun Solved case of automatic categorization of users posts in social network. Scraped, labeled the data. On the first iteration used Google API for getting images descriptions. On the second iteration used CLIP over ResNet and DistilBERT for the posts, KMeans for clusterization and mapping objects.

2022 Sep – **Game developer @ Hive**, Perm, Russia

2023 Mar Applying genetic and differential evolution algorithms to build an efficient matchmaker for multiplayer in online mobile games; making visualizations via egui and macroquad; building data collection pipelines; rust language. Making player and debug cameras; building raycasting.

2023 Oct – **AI Engineer @ ECMC Exponenta**, Moscow, Russia

Working with the problem of searching competitors to the main product. Made our own labeling framework using telegram bot API. Trained CLIP for russian language using CC12M+COCO+translations datasets+own translations using Helsinki-NLP models. Used CLIP over ResNet and DistilBERT. Using the resulting labels trained siamese model and aligned it to classification problem. Made models with FashionCLIP and XGBoost as a head for classification, compared them. Implementing optimal prices models using contextual multi-armed bandits (CMAB). Creating models of trend, seasonality, demand using time-series models (Prophet, XGB, xARIMAX, linear) and neural networks (BiLSTM, Transformers). Applying to production with customer. Lifting using Docker+Flask for MVP's

Education

University

2017 – 2018 **Cybersecurity department, Bachelor**, Tver State University, TVGU, Russia

2018 – 2021 **Applied mathematics and computer science, Bachelor**, Saint-Petersburg State University, SPBGU, Russia

2023 – 2025 **Data Analytics, Master**, ITMO University, Russia

MOOCs, CSC, YSDA

Apr 2018 – **Algorithms: theory and practice. Methods**,

Jun 2018 <https://stepik.org/course/217>

Jun 2020 – **Machine Learning Course**,

Jun 2021 <https://mlcourse.ai>

Feb 2022 – **Mathematical statistics @ CSC**,

May 2022

Sep 2022 **NLP course @ YSDA**,

Sep 2022 **Deep CV & Graphics course @ YSDA**

Saint Petersburg, Russia

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Projects

Study projects/pet projects

Mindmaps <https://github.com/breadfan/mindmaps-for-everything>

for **Smart diagrams for math-related objects**

everything Created mindmaps for better understanding ("Zettelkasten" inspiration) and keeping in mind tech-related objects. There are statistics, NLP, optimization and deep learning using pytorch now. Maps are available in **rus** and **eng** languages.

Lyric music <https://github.com/breadfan/lyrics-based-songs-recommender>

recom- **Using doc2vec and BERT embeddings for recommendation based on songs**
mender **lyrics.**

Created models with doc2vec and DistilBERT, created UMAP reduced embeddings for 2-d and 3-d visualisations (Plotly). Generated bot using «telegram» library.

Automatic <https://github.com/breadfan/Bachelor-Thesis>

posts catego- **Applying BERT for automatic posts categorization in social network.**

rization Using BERT, BERTopic and word2vec + TF-IDF for labeled images/video categorization.

Upgraded quality of models from BERT to word2vec.

Having categories need to make mapping from labels amount of posts to that categories for making simple recommendations.

Accelerated https://github.com/breadfan/Accelerated_MDM_method

MDM- **Researching acceleration of an MDM-method**

method As a course work for third year two methods were implemented: MDM and accelerated MDM methods with visualization for 2- and 3-dim. Cases for running time comparison.

Technical Skills

Languages Python, Rust, plpgsql, C/C++

VCS Git

OS Windows, Linux (Ubuntu)

On the Internet

GitHub <https://github.com/breadfan>

StackOverflow <https://stackoverflow.com/users/9850300/taciturno>

LinkedIn <https://www.linkedin.com/in/rocauc>

LeetCode <https://leetcode.com/breadfan/>

Telegram <https://t.me/rocauc>