Sergey Litvinov

Data Scientist

Address: Moscow, Moscow City, Russia

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Has exprerience in:

- *R&D projects and integarting AI in Industrial systems.*
- *leading project from scratch to MVP.*
- *planning, creating roadmaps*
- *communication with business clients*
- *interviewing and hiring new team members*

Work in various domains:

- *Computer Vision*
- *NLP*
- *Machine Learning*
- *Audio and Signal Processing*

Overall experience:

- *6+ years of data analytics and processing experience*
- *4+ years of programming experience*
- *4+ years Data Science & Research Experience*
- *2+ years of Team Leadership (6+ people).*

EXPERIENCE

NVI Solutions

April 2023 - Present

Data Scientist

Research, commercial projects, implementing algorithms from articles
Leading Team (6+ ppl)
Communicating with business clients
Project management

GeoPrime, Moscow

May 2017 - March 2023

Senior Geophysicist

Project management
Large scale data analysis
Signal processing in seimic field domain
Implementic DL and ML algorithms in geophyics

PROJECTS

Dangerous situations and Work Scenarios Detection in Industrial Environment

October 2024 - December 2024

- Trained detection YOLO network to find specific indicators from videostreams
- Developed custom scenarios to tie detection results to business needs
- Improved precision and recall up to **0.96-0.98**

Image Retrieval Location Service

April 2024 - October 2024

- Acquired real life image data

- Worked with vector database
- Trained similarity search model
- Implemented various algorithms to improve accuracy of search algorithm
- Deploy segmentation neuarl network on mobile device unisg TensorflowLite
- Created android user application in kotlin
- Used scene reconstruction algorithms to improve position accuracy

Inappropriate Behavior Detection using Speech Analysis

February 2024 - April 2024

- Developed system for detecting specific speech indicators using spectrogram analysis and deep learning approach

Document Parsing System

May 2023 - February 2024

- Implement microservice system for:
  - filtering usefull documents
  - detecting page layout parts with YOLO (pcitures, tables, texts, etc.)
  - detecting specific tables layouts
  - recognizing text, including unique special symbols with PaddleOCR framework
  - finding usefull indicators and their attributs (values, dates, etc) stored in documents
  - storing extracted data in PostgresQL database
- Used TensorRT to speed up model inference up to 5 times
- Optimized overall system performance to **process single documnet with ~200 pages in seconds**
- Developed PyQT app for results validation

Seimic noise detection

June 2021 - August 2021

- Developed an algorithm using both deterministic and machine learning approach to detect noise in seismic data
- Reduced noise detection proceedure up to **10 times**

SKILLS

Programming:

- Python (Pytorch, OpenCV, Numpy, Pandas, Matplotlib, Scipy, Scikit-learn)
- C++
- SQL
- Kotlin

Data science:

- Data acquiring and analysis
- Model training (PyTorch)
- Model deploying (PyTorch, ONNX, TensorRT, PaddlePaddle, TensorflowLite)

Services:

- S3 Minio
- RabbitMQ
- PostgresQl
- Clickhouse
- Qdrant
- CVAT

Version Control and Deploying:

- MLow
- Git
- DVC
- Docker
- Flask
- Gradio
- Tensorboard

EDUCATION

Yandex Praktikum

May 2020 - March 2021

Data Science Specialist

Lomonosov Moscow State University (MSU)

September 2016 - June 2018

Master of Geophysics and Seismology

Lomonosov Moscow State University (MSU)

September 2013 - June 2016

Bachelor of Engineering Geology and Geophysics

LANGUAGES

English (Full professional proficiency), **Russian** (Full professional proficiency), **German** (Elementary proficiency)

CERTIFICATIONS

Certificate of completion 'Introduction to Machine Learning for Geophysical Applications'

September 2021 - Present

EAGE (European Association of Geoscientists and Engineers)

Certificate for prize-winner in hackaton held during Intellectual Data Analysis in Oil and Gas conference

August 2021 - Present

EAGE (European Association of Geoscientists and Engineers)

Statistics 101 provided by IBM

February 2023 - February 2033

Cognitive Class

Credential ID: c5f2673a900f4c8fa6842c9bcb34de0a

Show Credential

PUBLICATIONS

Machine learning for classification of seismic data

August 2021

EarthDoc

- This paper discusses the possibility of using neural networks to classify seismic data in order to increase the efficiency of data processing, reduce the time for a geophysicist to perform routine tasks and have a positive impact on the economic efficiency of the project. The result of using deep learning for the classification of seismograms in the presence of non-stationary man-made noise in space is presented. The approach made it possible to achieve high classification accuracy. As a result of the work, an important conclusion was made about the possibility of using this approach to search for man-made noise in seismic records.