Alexandr Khakayu

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Computer Science | Distributed Systems

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WORK EXPERIENCE

Sber, Moscow – *Intern Data Engineer in Department of AI Development*

01.2022 - 06.2022

Parallel geo-data processing scripts development.

Computer Vision project development.

Deployment of Horovod tasks on cluster.

Apache Kafka producer script development.

EDUCATION

National Research University Higher School of Economics, Faculty of Computer Science, Applied Mathematics and Informatics, Distributed Systems

2016 - 2022

Distributed Systems Courses:

-Distributed Systems

-Theory and Practise of Multithread Synchronization

-Theory of Fault-Tolerant Distributed Systems

-Cloud Computing

-Introduction to Blockchain

-Methods and Systems of Big Data Processing

CV Courses (electives):

-Computational Photography: camera image processing pipeline

-3D Computer Vision

Data Science Courses:

-Basic Data Analysis Methods

-Machine Learning

-Introduction to Deep Learning

SKILLS

Python, C/C++

Distributed Systems, Cloud Computations

Machine Learning, Deep Learning

Computer Vision

ACHIEVEMENTS

Russian Olympiad in informatics and cryptographics 2015.
Second place

Regional Olympiad in informatics 2016.
Fourth place

Rosatom Olympiad in mathematics 2016.
Second place

Languages

Russian: native
English: upper-intermediate

Math Courses:

-Probability Theory

-Discrete Mathematics

-Methods of Optimisation

-Linear Algebra and Geometry

-Matrix Calculations

-Numerical Methods

-Theory of Complex Systems

Programming Courses:

-Algorithms and Data Structures

-Fundamentals and Methodology of Programming: Python, C++

-Computer Architecture and Operating Systems: Assembly, Linux, C, Unix architecture, basics of multithreading

PROJECTS

Diploma: Development of a Load Balancing System for the Voluntary Computing Project.

11.2021 - 06.2022
-Development of a load balancing module for distributed deep learning in a voluntary computing environment with BOINC.
-Python, Pytorch, Horovod, Numpy, BOINC

Deep Neural Networks Training Using a Distributed Computing Environment. Synchronous Approach.

10.2020 - 10.2021
-Development of a method for distributed deep learning of convolutional neural networks in a voluntary computing environment with BOINC.
-Python, Tensorflow, Horovod, Numpy, BOINC

Change Detection

10.2018 - 05.2019
-Change detection on satellites images using convolutional neural network and data from LANDSAT and SENTINEL
-Python, Sentinel API, OSM, GDAL, Rasterio

N-body Problem

06.2022 - ...
-Python, Numpy, C++

Moscow Public Transport Availability

10.2017 - 05.2018
-Web-service which colors Moscow districts maps depending on approximate travel time to various places (selected or random)
-HTML, Java Script, CSS, Google API

Runner Game in Unreal Engine 4

06.2017 - 09.2017
-Blueprint + UE4