Alexandra Latysheva

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EDUCATION

THE HIGHER SCHOOL OF ECONOMICS

Bachelor of Computer Science

September 2017 - June 2021 | Moscow, Russia

YANDEX SCHOOL OF DATA ANALYSIS

Big data infrastructure

September 2021 - now | Moscow, Russia

EXPERIENCE

THE HIGHER SCHOOL OF ECONOMICS | Visiting Lecturer

September 2021 – now | Moscow, Russia

Seminarist of the course Advanced C++ Programming Language teacher on the advanced C ++ course.

YANDEX | Software Engineering Intern

August 2021 – now | Moscow, Russia

Description. I work in the Department of distributed computing technologies in the Dynamic tables development service. I'm working on an algorithm for balancing dynamic table shards.

Used C++, Python

GOOGLE | Software Engineering Intern

July 2020 – October 2020 | Remote

Description. The objective of the project is to sandbox libraries using Google open-source tool called Sandboxed API. LibTIFF and LibPNG had security vulnerabilities that were fixed by sandboxing. This work provides useful examples that can be used as a guide when using SAPI. The sandboxed version of the libraries provides secure execution and data handling.

Used C & C++, Git, Google Test

YANDEX | Software Engineer

October 2019 – June 2020 | Moscow, Russia

Description

- The team in which I worked developed a service for AB testing of experiments. We also developed some services for analysts who are engaged in experiments.
- I was responsible for the log analysis project, supported and improved it.
- Setting up the process of cleaning and splitting logs for further analysis.
- Design and customize a process for testing experiments in a centralized testing system to speed up and separate boundaries of responsibility.

Used Python, C++, Svn, Shell, YQL, Django, JavaScript

YANDEX | Software Engineering Intern

July 2019 – October 2019 | Moscow, Russia

Description

- The team in which I worked developed a service for AB testing of experiments. We also developed some services for analysts who are engaged in experiments.
- Connecting an AB experiments service to the role management system to ensure the security of working with financial metrics.
- Replacement of the task manager in the query analysis system to improve performance and fault tolerance.

Used Python, C++, Svn, Shell, YQL, Django, JavaScript

PROJECTS

DATA ENCRYPTION ON VFS LEVEL | bachelor's thesis

February 2021 - June 2021 | HSE University & ClickHouse, Yandex

Description. The goal of this work is to implement encryption on the virtual filesystem-level in the ClickHouse DBMS. The virtual disk that provides data encryption is specified in the configuration as a wrapper for the virtual disks. Data encryption on the virtual file system level provides reliable data protection against unauthorized access to the data storage.

Used C++, Git, OpenSSL, Python, Google Test

IMPROVEMENT OF QUORUM INSERTS | term paper

February 2020 - October 2020 | HSE University & ClickHouse, Yandex

Description. The paper discusses INSERT queries in the open-source column-oriented DBMS ClickHouse. Quorum inserts allow you to insert data on a specified number of replicas. This work is quorum inserts improvement. The functionality allows for parallel quorum inserts which wasn't possible in the previous implementation due to the design specifics. Parallel quorum inserts extend functionality and improve performance which is one of the main features of ClickHouse.

Used C++, Git, Shell

SKILLS

Programming

Strongest programming languages
Python • C & C++ • Go
Familiar:
ASM • JavaSctipt • SQL/YQL

Data Bases

MongoDB • ClickHouse • PostgreSQL

Libraries & Tools

Django • Numpy • Pandas • SandboxedAPI • PyTorch • SkLearn • OpenCV

Other

Git • SVN • Linux/Unix • Shell

Spoken & Written

Russian, English

TEACHING ASSISTANT

- Algorithms and Data Structures (2018-2020)
- Discrete math (2019)
- Computer Architecture and Operating Systems (2019-2021)

INTERESTS

- Distribution systems
- Parallel computing
- Software Engineering
- Discrete Mathematics
- Infrastructure