Alexandra Latysheva

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EDUCATION

THE HIGHER SCHOOL OF ECONOMICS

Faculty of Computer Science
Applied Mathematics and Information Science
September 2017 - Present | expected June 2021 | Moscow, Russia

EXPERIENCE

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

July 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.
- 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.
- I was responsible for the log analysis project that uses analysts, 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

PROJECTS

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++, Shell

TRAFFIC SIGN RECOGNITION | project

August 2018 - March 2019 | HSE University

Description. During the project, a script for the recognition and classification of traffic signs by photo was developed. The algorithm uses a linear support vector machine for the classification problem and contour search and color filtering to identify and recognize traffic signs.

Used Python & libraries such as Numpy, OpenCV, Pandas, SkImage, SkLearn

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