Ilya Laryushkin

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About

Software Engineer with 2+ years of experience in software development and performance engineering. Interested in software architecture along with operating systems, mechanisms, and instruments for concurrent and parallel programming, hardware internal details to solve business tasks most efficiently. Currently focusing on developing instruments for SDK of the operating system.

Technical Skills

Languages: C++, C, Python, familiar with Assembler, Rust, Scala, C#
Developer Tools: GDB, Perf, CMake, Git, Conan, vcpkg, Docker
Libraries: STL, Boost, OpenCV, Google Test, Google Benchmark, Protocol Buffers, mxnet, ffmpeg, MySQL
Patterns & Practices: Object Oriented Programming, Concurrent and parallel programming, CI/CD, Microservices, Optimizations and Benchmarking

Experience

Kaspersky, KasperskyOS (KOS) SDK team and KOS for Mobile team Moscow, Russia
Software Engineer *June 2021 – Present*

- Responsible for developing common components in SDK, increasing performance, integrating new features in SDK, participating in technical discussions.
- Added support of dynamic linkage for SDK. Organized cross-team communication for smooth integration of the feature for the whole SDK. Optimized memory consumption in products via dynamic linkage. Make it work together with the custom build system, CMake, and auto tools.
- Co-designed the the distributed logger in SDK. Designed backend for collecting and saving log entries.
- Investigated many complex bugs. Found FP register corruption after using memcpy in a very rare case. Found a bug with disabling the CPU cache in the low-level library. Found runtime bugs with the incorrect linkage of pthread and libc.

AST Moscow, Russia
Software Engineer *February 2021 – May 2021*

- Responsible for developing framework for control P2P network IoT devices.
- Added support for 5 types of IoT devices.

IVA Cognitive Moscow, Russia
Junior Software Engineer *April 2020 – February 2021*

- Responsible for developing integration of the product with 3rd-party systems and hardware, supporting neural networks inference using C++ and third-party libraries.
- Developed 6 micro services with integration of 3rd-party systems and hardware. Work with heat-vision cameras and IP cameras.
- Prepared inference for work in NIST contest.

Education

Higher School of Economics Moscow, Russia
B.S. in Computer science and engineering *2016 – 2020*

- GPA: 8.85/10
- 3rd place on Student Research Paper Competition.
  Area: Technical sciences
  Theme: Implementing POSIT real computation for applications in machine learning technologies
  2020

Additional work

Work on proposal for C++ standard 2021

- Co-author of the proposal for constexpr bitset. Testing proof-of-concept solution and fixing bugs.
  github.com/neargye-wg21/bitset-constexpr-proposal

Projects

Graduation research project | *C++, Google Benchmark, Google Test* November 2019 – May 2020

- Emulation of posit format for real numbers and benchmark for performance measurement. Comparison of IEEE754 and Posit format in most equal conditions for relative comparison.

Student research project | *Python, ROS* November 2018 – May 2019

- Simulation robotics. A program for simulating the behavior of a group of robots under certain conditions.

Additional education

Concurrency Open Course from YSDA | *C++, Concurrent and parallel programming*

During the course I implemented:

- Some popular synchronization primitives (such as mutex, spinlock, condvar, barrier).
- Threadpool
- Stackful coroutine and fibers library

gitlab.com/Lipovsky/concurrency-course/

Yandex C++ Course on Coursera | *C++*

- Completed several tasks for different aspects of C++ and Transport guide as a final project. C++ Modern Development, all solutions on github

Languages

Russian – Native

English – B2