Viktor Krapivenskiy
Curriculum Vitae

About

Regarded by many as a computer programmer. Interested in techniques of writing clean and maintainable code, software design, compilers, parallel programming, systems programming. Author of a number of side projects. Participant of Google Summer of Code—2017.

Skills

Software design · Algorithms and data structures · C · C++ · POSIX API, Linux API · LLVM · Go · Python · Lua · JavaScript · x86-64 assembly.

Experience

2017 · Summer of Code Intern (Google) · Implemented Lua scripting for the strace project (C, Lua).

2018 · Software architect (private company) · Implemented bots and various utilites for analysis of order flow and trading on a number of cryptoexchanges (Python, MySQL).

2019 · C++ developer (contract with Offscale) · Developed liboffkv, a uniform interface for distributed key-value storages, in a team of four; implemented C bindings; made a contribution to ppconsul: transactions support (C++).

2019 · Software architect (contract with Sikoba Research) · Implemented support for LLVM in the verifiable computation framework isekai (Crystal). See the following articles for more information:

- Isekai LLVM update #1;
- Isekai LLVM update #2: conditionals and loops;
- Isekai LLVM: final update.

2019 · Software developer (contract with Fantom foundation) · Developed tools for internal use.

2020 · Go developer (contract with Offscale) · Developed goffkv (goffkv-consul, goffkv-zk, goffkv-etcd) — a rewrite of liboffkv in Go.

2021—present · Software architect (private company) · Developed market data providers for multiple exchanges, programs to perform algorithmic trading on multiple exchanges, programs for low-latency transmission of market data over the network, and other tools, in C · Implemented a fast JSON parser in C · Implemented efficient parallel calculation of a digital signature based on Pedersen hash, needed for dYdX cryptocurrency exchange, in x86-64 assembly and C · Implemented a fast emulator of EVM programs to calculate price slippage for a given amount for SushiSwap, Uniswap v2 and v3 pools, in x86-64 assembly and C.

Awards

2016 Prizewinner of the All-Russian Olympiad in Informatics, Finals
2016 Gold winner of the Individual Olympiad of School Students in Informatics and Programming, Finals
2017 4th place in “LAToken hackathon”: smart contract for tokenization of different kinds of assets
2018 1st place in “Global Changers” hackathon: client support bot system
2018 1st place in “IDACB & CryptoBazar hackathon”: chat based on proxy re-encyption protocol
2018 1st place in “Phystech.Genesis” hackathon: mobile application for traveling
2018 3rd place in “CryptoBazar Serial Hacking: October”: PoC software raytracer using Intel SGX
2018 1st place in “CryptoBazar Serial Hacking: November”: LLVM IR interpreter with register-based VM
2018 Mentorship of two teams at “CryptoBazar Serial Hacking: December” that took 2nd—3rd places
2019 1st place in “CryptoBazar Serial Hacking: Grand Finale”: network traffic record/replay tool
2020 2nd place in “VirusHack”: automatic detection of deviations in a video stream

Projects

2016—present	**luastatus**, a universal status bar content generator
2017	**support for Lua scripting in strace**, Google Summer of Code—2017 project
2020	**libdeci**, an arbitrary-precision decimal arithmetic library for C
2020—present	**calx**, a bc-like programming language
2020	**"Speeding up decimal multiplication"**, a research project
2022	**FiWiA**, a generator of x86-64 machine code for fixed-width multi-word arithmetics

References

shdownnine@gmail.com
https://github.com/shdown
https://www.linkedin.com/in/shdownnine