

Albert Gafiyatullin

Compiler Engineer

Open for relocation (visa sponsorship)

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SUMMARY

Software Engineer with 2 years of experience specializing in the development of JVM JIT compiler and runtime for VLIW CPU. Looking for Compiler Engineer positions, passionate about programming language runtimes and compiler technologies.

EDUCATION

- Novosibirsk State University** Novosibirsk, Russia
Master's degree in Computer Science Sep. 2021 - Aug. 2023 (Present)
- Novosibirsk State University** Novosibirsk, Russia
Bachelor's degree in Computer Science Sep. 2017 - Aug. 2021
 - Thesis:** Development of a computational module for simulation of fast-neutron reactor core destruction.
 - * Developed eutectic interaction model;
 - * Optimized calculation time up to 250% for IO-intensive tasks.
 - GPA:** 4.8/5.0, graduated with honors

EXPERIENCE

- UNIPRO/MCST** Novosibirsk, Russia
Compiler Engineer, Java Virtual Machine team Mar. 2021 - Present
 - C++ JVM Assembly Language JIT Compilers Design Garbage Collection GNU Debugger
 - JVM Runtime and JIT Compiler development for Elbrus VLIW processor by MCST.
Mainly worked with code generation phase and runtime support, e.g.:
 - Reduced applications startup time up to 100% with tiered compilation;
 - Increased performance for some strings and XML tasks up to 8% with inline intrinsics;
 - Reduced runtime overhead with platform-dependent improvements for implicit null checks.

PROJECTS & COURSES

- COOL Compiler** Sep. 2021 - Present
 - C++ LLVM Garbage Collection Compilers Design GNU Debugger
 - Implementation of COOL compiler and runtime with LLVM:
 - AArch64 and x86-64 as target architectures;
 - Shadow Stack and Stack Maps for call-stack traversal;
 - Stop-The-World Garbage Collectors:
 - * Mark-and-Sweep GC;
 - * Jonkers's threaded compaction (Mark-and-Compact) GC.
- SOE.YCSCS1: Compilers** Oct. 2021
 - C++ MIPS Compilers Design Assembly Language
 - Implementation of COOL compiler for SPIM emulator.

ACHIEVEMENTS

- Huawei Scholarship Winner** Novosibirsk, Russia
2020 - 2021
 - C C++ OpenMP
 - Awarded by Huawei for academic achievements.

PROGRAMMING SKILLS

- Languages:** C++, C, Assembly Languages, Java, Python.
- Technologies:** JVM internals, Compilers Design, CPU Architecture.
- Tools:** GNU Debugger, Bash, Perf, Intel VTune Profiler.