

Albert Gafiyatullin

Compiler Engineer

Open for relocation.

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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
C C++ OpenMP *2020 - 2021*

Awarded by Huawei for academic achievements.

PROGRAMMING SKILLS

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