ROMAN GLAZ

Architecture researcher, software engineer

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EXPERIENCE

Assistant-engineer

Huawei RRI

july 2022 – now

- Coauthor of international patent (PCT): Computing performance improving method and electronic device (application not published yet).
- Created and took part in creation of architecture-dependent (ARM64) performance/power models and algorithms related to Linux kernel scheduler & frequencies scaling.

PET PROJECTS

- RISC-V 64-bit functional simulator – custom simulator with RV64IM instructions interpretation via threaded-code, MMU & TLB.
- Echo Virtual Machine (EVM) – custom register-based virtual machine with incremental garbage collector.
- Vokerlee SSH – custom secure shell implementation (TCP + UDP with delivery guarantee) via linux virtual terminals & cgroups.
- Incremental $inotify$ daemon-backuper – incremental backup-system (deamon), implemented via $inotify$ Linux kernel subsystem.
- Gem5 & Linux:
  1. Gem5 – added cache PMU events for ARM64, 3-level cache CPU-cluster system.
  2. Linux 6.1 patches for Gem5 – implemented $cpufreq$ & $devfreq$ drivers (+ clk) for DVFS support for all components in Gem5.
- LLVM practise – LLVM front-end of imperative language & own LLVM back-end of RISC-V like architecture with custom graphics extensions.
- RISC-V 64-bit verilog simulator – simulator of executable file with RV64I instructions written in System Verilog language.

EDUCATION

Bachelor of Radio engineering and computer technology

Moscow Institute of Physics and Technology

sept. 2020 – july 2024

- CGPA 9.41/10, top 1 department graduates, top 4 university graduates
- Thesis topic: "Memory aware CPU frequency scaling policy in Linux kernel".

Master of Radio engineering and computer technology

Moscow Institute of Physics and Technology

sept. 2024 – now

TECHNICAL SKILLS

Programming languages

C, C++, Python

Architectures

RISC-V, x86-64, ARM64

Technologies

Linux API, MPI, OpenMP

Languages

English – upper intermediate

Other

Machine learning, computational maths, computer networks

Would like to delve into

Rust, architecture-dependent part & security aspects of Linux kernel

EXTRA INFO

Member of the national team for the International Physics Olympiad 2020 (cancelled due to Covid19)

Tutor in introduction to compilers & x86-64 architecture cources in 2021/2022

1st rank in powerlifting (IPF federation)