

Roman Storozhenko

USA – remote

✉ romeusmeister@gmail.com • in roman-st • romeus

Summary

- Seasoned developer with more than 20 years experience in different domain areas
- Linux Kernel, Embedded and Firmware developer enabling the latest [RDT](#) HW in SW for Intel® Xeon® CPUs.
- Author [[Exploring ELF files using pyelftools](#)] & [[Core Knowledge That Modern Linux Kernel Developer Should Have](#)].
- Volunteer participating in hackatons and awards as a mentor and judge [[Globee](#)].
- RISC-V enthusiast having certifications [[RVFA](#)]
- Community member in [RISC-V International](#). Individual Supporter in [The Linux Foundation](#) organization.
- Open source proponent having Linux Kernel patches accepted [[patches](#)]. Developer enthusiast [[GitHub](#)].
- Industry expert asked on Linux Kernel topics [[Linux Developer Skills: Everything You Need to Know](#)]

Skills

- **Linux kernel:** general knowledge, driver development
 - **Advanced, cloud level technologies:** [Intel® RDT Framework](#) for Intel® Xeon® CPUs: CMT, L2 & L3 cache CAT and CDP, MBM, MBA, I/O RDT, SNC, CBA, etc...
 - **Networking:** Wi-Fi, Ethernet, Bluetooth Low Energy, PCIe drivers for SR-IOV and S-IOV capable devices
 - **Buses and protocols:** PCIe(3.0 and 4.0), UFS, SCSI, I2C, SPI, 1-Wire, MDIO
 - **IO stack:** VFS, block layer, SCSI- and UFS-based device drivers
 - **Tracing:** ebpf, xdp, kprobes, tracepoints, ftrace, perf
 - **Architectures:** x86, RISC-V, ARM
 - **Kernel special purpose FS:** procfs, sysfs, debugfs, tracefs, resctrl, hugetlbfs
 - **File systems:** Ext-family
- **Dev boards:** **RISC-V:** Beagle-V Ahead(Alibaba T-Head TH1520 SoC), StarFive 2(JH7110 SoC), RVBoards(Allwinner D1 SoC). **ARM:** Raspberry PI, Exynos-based. Custom hardware boards
- **Hardware debug tools:** oscilloscopes, multimeters, bus analyzers
- **Embedded Linux:** Yocto Project, OpenWrt, U-Boot, SWUpdate, etc...
- **Virtualization:** QEMU-KVM, Virtualbox, Vmware Workstation, Docker
- **Linux userspace:** Shell scripts, Python, POSIX
- **Languages:** C(C99 standard, Clang and GCC compilers), ASM(RISC-V, x86, PIC-family), Python
- **Version control:** Git, Mercurial, Perforce, Svn

Work Experience

Intel

Team Lead, Senior Linux driver developer

Gdansk, Poland

June 2022 - Present

For more than 50 years, Intel and our people have had a profound influence on the world, driving business and society forward by creating radical innovation that revolutionizes the way we live.

Project: Enabling the newest HW features of [Intel® RDT Framework](#) for the upcoming generations of Intel® Xeon® CPUs

Accomplishments:

- ✓ Cannot disclose details due to NDA

Technologies: RDT, C, Linux Kernel, etc...

Intel

Linux driver developer

Gdansk, Poland

October 2021 - June 2022

For more than 50 years, Intel and our people have had a profound influence on the world, driving business and society forward by creating radical innovation that revolutionizes the way we live.

Project: Custom version of [Linux ice driver](#) for smartNICs (Intel E8XX series) and a wide range of pre- and post-production cutting-edge network equipment

Accomplishments:

- ✓ Cannot disclose some details due to NDA
- ✓ Implemented [VLAN filtering features](#)

Technologies: C, Linux, Python, ftrace, perf, ebp, PCIe, SR-IOV, S-IOV, QEMU, KVM, libvirt, docker, SoC hardware, Ethernet

Zorachka Inc.

Embedded developer

Minsk, Belarus

Apr 2019 - Sep 2021

A team of dedicated professionals with a mission to provide the best solution for the smart home.

Project: [Homam 64GB](#) home camera

Accomplishments:

- ✓ Implemented different firmware versions for all hardware revisions for camera's PCBs
- ✓ Implemented the bootloader able to update PCB microcontroller's firmware
- ✓ Implemented GPIO Linux driver supporting custom hardware
- ✓ Updated ASoC-level Linux driver for custom audio chip enabling mic recording and 2-way audio
- ✓ Updated proprietary Wi-Fi Linux drivers for the Wi-Fi chip used in the product
- ✓ Took part in the process of the product WI-FI certification by Wi-Fi Alliance®. Investigated some failed test cases using wireshark and fixed SW to make those passed.
- ✓ Enabled userspace's SW support of Apple HomeKit®
- ✓ Wrote the userspace's uploader utility for the microcontroller's bootloader enabling reflashing FW

Technologies: C, Linux, Python, ftrace, perf, ebp, Embedded development tools, ARM-based SOC, Wi-Fi, Bluetooth Low Energy, custom hardware, bus analyzers, oscilloscopes, multimeters

SK Hynix memory solutions Eastern Europe

Embedded developer

Minsk, Belarus

May 2018 - April 2019

SK hynix memory solutions Eastern Europe is a leading R&D center for flash firmware and software development

Project: Different projects related to NAND-based storage products

Accomplishments:

- ✓ Implemented passing some high-level filesystem information from the customized UFS Linux Kernel driver to the NAND-based storage sample firmware in order to help sophisticated firmware algorithms work more effectively
- ✓ Introduced some new tracepoints to the Linux kernel VFS and Block layers allowing gathering required statistics using ftrace
- ✓ Participated in creating a flavor of Host Performance Booster algorithm in a custom Linux Kernel UFS storage driver
- ✓ Written different kinds of userspace utilities that allow handle some statistic obtained from different NAND samples and show it in a convenient form.

Technologies: C, Linux, Python, ftrace, perf, Embedded development tools, ARM-based SOC, custom hardware, NAND, Host Performance Booster

Sole Entrepreneur

Senior python backend developer

Taganrog, Russia

Dec 2014 - May 2018

Softline

Software developer

Taganrog, Russia

Aug 2012 - Dec 2014

Education

Taganrog State University of Radioengineering

Engineering degree in Computer Science

Faculty of Automation and Computer Engineering

Graduate work: Wavelet transforms based images compression codec

Taganrog, Russia

Sep 1996 - May 2004