Aleksandr Anisimov

Embedded Software Engineer
with Laser Physics background

Looking for a PhD in Laser or Plasma Physics related position.

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SKILLS

Basis	Laser physics, Plasma, Interferometry, Laser Doppler velocimetry
Programming languages	C/C++, Bash, Python, HTML, CSS, JavaScript, SQL
Hardware	STM32, NRF52 BLE, 8051 core, ESP32, st-link, Trace-32
Other	GNU make, Git, Vim, Markdown, LaTeX, RPM spec
Keywords	SSD, microcontrollers, DSP, ARM, TrustZone, REE, TEE, Linux kernel, LDD

EDUCATION

National Research Nuclear University MEPhI

Bachelor's degree, laser fusion, sept. 2013 - june 2017

Diploma: Development of a multichannel system for photoelectric conversion of signals for laser interferometer of the VISAR type

- Measurement velocity of shock wave in solid state
- Development firmware to adjust the intensity of light entering the photodetector

Master's degree, embedded systems, sept. 2017 - june 2019

Diploma: Development of a training course on the application of DSP-processors for digital signal processing tasks

- Implement hardware drivers for Russian DSP processor
- Implement DSP algorithms: digital filters, Fourier analysis

WORK EXPERIENCE

Now 2021 – Now

SSD Firmware Development Engineer @SK Hynix

Memory solutions

- Implement NVMe SSD firmware layers (HIL/FTL/FIL) in C/C++
- Implement firmware test code for regression failures/corner cases troubleshooting
- Perform firmware code review and improvement
- Perform firmware failure analysis and corrective actions applying

Jul 2019 – Nov 2021

System Software Engineer @Aurora OS

Mobile OS based on Linux

- Development TEE side of Russian fork of Sailfish OS (Aurora OS)
- Development hardware-backed keystore and trusted services
- Designed new features for Linux kernel OP-TEE driver for in-house Linux distro
- CVE fixing for government certification (FSTEK Russia)
- Took part in preparation solution for TEE logger

Sept 2018 – Mar 2019

Embedded Software Engineer @Yandex

Self-driving cars

- Development emergency stop button for self-driving cars (FreeRTOS, STM32, CAN, radio module)
- Reverse engineering for update protocol for radio modules to update its firmware by other chip
- Development from scratch driver for SPI-based e-paper displays
- Writing unit-tests with cpputest for main board in a car

Feb 2018 – Sept 2018

Embedded Software Engineer @SmartAirkey

Wireless solutions startup

- Development firmware for a Bluetooth-lock based on Nordic BLE stack and FreeRTOS
- Soldering and testing boards

Sept 2016 – Feb 2018

Junior Embedded Engineer @Amplituda

Radiation safety technologies

- Development firmware for γ-sensors based on RS-485 and stm32f103
- Development low-level drivers for ADC, DAC, OLED, touchscreens, RTC, USB, DHT11, HD44780 etc

ACHIEVEMENTS

- Fix CVE-2020-6096 in GNU C Library for ARMv7 memcpy(). More info: [link1], [link2], [link3], [link4]
- Loadable plugin framework in OP-TEE project. More info: [link1], [link2], [link3], [link4], [link5], [link6]