

Sam Protsenko

Senior Software Engineer

Austin, TX, United States

+1 (512) 986-2526

joe(skb7@gmail.com)

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joe-skb7



Summary

Embedded software engineer with 15+ years of professional experience. For the last 10+ years have been contributing to open-source projects. Specialize in Linux kernel, bootloaders, firmware, and system level programming on ARM-based devices. Have 170+ patches accepted in the upstream Linux kernel, 250+ patches in U-Boot, and 500+ patches in open-source projects overall. Was a speaker at 10+ conferences worldwide. Have ~15,000 reputation on StackOverflow. A combination of hard skills in low-level programming, electronics, Linux ecosystem, and upstreaming enables me to solve complex cross-disciplinary tasks in the Embedded area.

Experience

12/2022– **Senior Software Engineer, Linaro, Austin, TX, USA**

Present

- Implemented and upstreamed kernel platform drivers for Exynos850
- Enabled U-Boot support for E850-96 board and upstreamed it
- Became a maintainer of Samsung drivers and Exynos850 SoC in U-Boot
- Became a maintainer of Exynos850 SoC in upstream Linux kernel
- Made major downstream Pixel 6 drivers functional in upstream kernel
- Brought up U-Boot with XIP support on a novel chip with NV memory
- Enabled EFI boot and ARM SystemReady for E850-96 board in U-Boot
- Implemented Android OS boot using Android GBL from U-Boot on E850-96
- Made Debian installation work on E850-96

07/2020– **Software Engineer, Linaro, Kyiv, Ukraine**

11/2022

- Brought up a new devboard from square one to feature complete
- Made the vendor kernel, bootloader, and Android fully functional
- Found and fixed more than 30 hardware bugs during the bring up
- Created device tree, the clock driver and other drivers from scratch
- Upstreamed all essential platform support to the Linux kernel

05/2018– **Team Lead, GlobalLogic, Kyiv, Ukraine**

05/2020

- Managed a small team working on Android OS and Linux kernel
- Adopted VPN from upstream kernel in Android
- Ported Android to a new board and upstreamed it
- Implemented Android 10 boot sequence in U-Boot
- Managed to run Android 10 with mainline kernel on BeagleBoard X15

02/2012– **Software Engineer, GlobalLogic, Kyiv, Ukraine**

05/2018

- Supported Android kernel on Texas Instruments SoCs (OMAP4/5)
- Implemented and maintained device drivers
- Maintained the Android boot sequence code and fastboot in U-Boot
- Implemented XIP boot from NOR flash (automotive)
- Board bring ups, bug fixing, migrating to new kernel versions
- System boot time optimizations (automotive)

09/2009– **Software Developer, AlterEGO, Kramatorsk, Ukraine**

01/2012 Implementing cross-platform applications in C++/Qt

Education

- 09/2008– **Master of Science in Computer Aided Engineering,**
06/2009 *Donbass State Engineering Academy, Kramatorsk, Ukraine*
- 09/2004– **Bachelor of Science in Computer Engineering Technology,**
06/2008 *Donbass State Engineering Academy, Kramatorsk, Ukraine*

Personal Projects

- 01/2019– **Linux Kernel Course**
01/2020 Created and taught the Embedded Linux kernel course
- 11/2018– **Traffic Light System**
01/2019 Designed and built a traffic light system (hardware and software) for an automotive hackathon
- 01/2012– **Debian Maintainer**
04/2020 Created and maintained a Debian package for "INSTEAD" game engine

Skills

- Projects Linux kernel, U-Boot, Android, Debian, BusyBox
- Components ARM, device drivers, device tree, bootloaders, upstreaming
- Languages C, C++, ARM assembler, Bash
- Electronics Soldering, hardware debugging, designing circuits and PCBs

Languages

- English Professional working proficiency
- Ukrainian Native or bilingual proficiency
- Russian Native or bilingual proficiency