Embedded Software Engineer

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**Summary**

* **Embedded Software Engineer** with extensive experience **delivering production-ready embedded systems** from board bring-up to secure firmware in **global** and mid-size **high-tech** companies
* Expert in **Embedded Linux** (Yocto, Buildroot), **kernel modules**, drivers, and **low-level debugging**
* **Expert in C** with additional fluency in **C++, Python, Bash,** and **ARM Assembly.**
* Deep understanding of **secure architectures**: TrustZone, secure boot, and memory protection.
* Hands-on with **microcontrollers**, **ARM** (Cortex-A/M, **STM32**), **MIPS**, and **RISC-V** platforms, including **SoC emulation** and **reverse engineering.**
* Skilled in **system performance optimization**, device tree configuration, and custom bootloaders.
* Additional skills include **video processing** (GStreamer, FFmpeg), codec integration (H.264/H.265, VP8), and stream quality analysis.
* Proven ability to **collaborate** across hardware, QA, and firmware teams in fast-paced environments.
* Holds **M.Sc.** in Computational Systems and Networks (Computer Science).

**Experience**

2022 – 2024 **Software Infrastructure Engineer**, RADWIN

* **Developed embedded Linux firmware** using **Yocto** and **Buildroot**, and vendor **BSPs** for wireless infrastructure devices.
* Performed **bring-up** and **low-level debugging** using **gdb, ftrace, perf, JTAG,** and **logic analyzers.**
* Worked on memory management, boot processes, and performance optimization of network devices.
* **Collaborated** with QA and hardware teams to ensure high product quality.
* **Wrote technical documentation** and participated in **code reviews**.
* **Languages used**: **C, C++, Python, Bash scripting.**

2021 – 2022 **Senior Embedded Software Engineer**, NPC ELVEES

* Ported **Trusted Firmware-M** to a custom dual-core **ARM Cortex-M33 SoC** with **TrustZone**.
* Designed secure firmware for **FreeRTOS** and **bare-metal** environments
* **Implemented** boot logic, memory protection, inter-core comms, and low-level **HAL drivers**.
* Performed **reverse engineering** on ARM embedded platforms
* **Languages used**: **C, ARM Assembly.**

2018 – 2020 **Software Engineer**, Sercomm

* **Developed embedded Linux firmware** for routers using OpenWRT and Linux SoCs.
* Optimized **kernel modules** and **drivers** to speed up boot time and boost performance.
* Redesigned internal **RPC** communication to reduce latency and increase responsiveness.
* Identified and **fixed a bug** in a **Realtek network card driver**, contributing the patch upstream.
* **Languages used**: **C.**

**Education**

**M.Sc. in Computational Systems and Networks**, Izhevsk State Technical University

**B.Sc. in Information Technology**, Bauman Moscow State Technical University

**Languages**

**English** (Advanced written), **Russian** (Native), **Hebrew** (Basic)