Alison Chaiken, PhD.

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Citizenship: USA

Summary

Systems programmer and Linux Kernel engineer for embedded devices. Code since 2012 has been for vehicles. Passionate cyclist and music lover.

Work History

2020-: Staff Software Engineer at Aurora Innovation, Mountain View CA

Made contributions to control of embedded network switches (Microchip Sparx5 and BCM53570) in C++ with ARM 64-bit and 32-bit processors. Developed device driver for a U-Blox Zed-F9 GNSS in C plus GNSS-manager in C++. Wrote monitoring tools for realtime Linux kernel in C++. Principally responsible for Linux kernel on the NUMA x86_64 main board. Contributed to functional safety analysis in JAMA. Solved problems with Kernel RCU and PCIe-connected NVME.

2016-2020: Vehicle Integration Engineer at Peloton Technology, Mountain View CA

Wrote OTA and LTE modem firmware in C++. Developed accelerator pedal emulator via I2C-controlled PWM interface. Shared responsibility for the U-Boot bootloader and realtime Linux kernel for a TI TDA2 32-bit ARM processor. Contributed to upstream U-Boot in C. Developed accelerator-pedal emulator via I2C-controlled PWM.

2012-2016: Automotive Software Engineer at Mentor Embedded Software Division, California and Deutschland

Wrote Linux kernel device drivers for the Freescale i.MX6 Platform as part of Bosch's automotive project. Co-authored a new OpenMax GStreamer Plugin for Qualcomm's APQ8084 in C. Worked onsite in Niedersachsen and Baden-Württemberg for 8 Months.

2010-2011: Engineer, Nokia Mobility Solutions, Sunnyvale CA

Created CES Demos in Qt/QML that featured new Nokia phones.

2009-2010: Software Engineer at Stanford Linear Accelerator Center, Menlo Park CA

Created a synoptic display for accelerator operators. Wrote RTEMS controls for an RF power supply.

1997–2009: Member Technical Staff at Hewlett-Packard Labs, Palo Alto CA

1992–1997: Member Technical Staff at Lawrence Livermore National Lab

Worked more than 20 years on design and construction of automated test systems for advanced thin film materials, with applications in magnetic and optical data storage plus printed electronics and landmine detection.

1989–1992: National Research Council Postdoc at Naval Research Lab, Washington DC

Education

2015- German study at Goethe Institut San Francisco and German International School of Silicon Valley.

1983–1988: PhD in Physics from **Massachusetts Institute of Technology (MIT)**.

Professional: Speaker at Embedded Open Summit, linux.conf.au, Embedded Linux Conference, Southern California Linux Expo, Automotive Linux Summit etc. Presented a LISA Conference short course on systemd. 8 granted patents and more than 30 referred technical papers. Member, SAE and ACCU. Contributor to Real Time Linux wiki.

Skills: C++17, C, Linux Kernel, GCC/GDB/clang, git, Bazel, GoogleTest, protobuf, Yocto, JAMA, JIRA, bash, U-Boot, systemd, bpftrace.

Languages: Deutsch Sprachdiplom Niveau B2. Native English speaker.