Alison Chaiken

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Goal: leverage advanced vehicle technologies to minimize environmental impact and maximize public safety.

Summary: automotive industry systems programmer and Linux kernel engineer with device-physics background.

Professional interests and skills: Consumer and commercial vehicle systems using Linux and RTOS at both systems programming and kernel level. Hardware adaptation for ARM. Automation via C/C++ and bash. Familiar with eBPF, git, JIRA, gerrit, GDB, ftrace, CAN tools, GoogleTest and Yocto.

Full-time employment:

2019-: Vehicle Integration engineer at Peloton Technology

Design and prototype custom code-plus-electronics that adapts Peloton's standard products to individual truck platforms using C++, J1939 and CAN tools.

2016-2019: Senior Software engineer at Peloton Technology

Lead implementer for bootloader, over-the-air updates, LTE modem firmware, initial board flash-tool for ARM-based truck-automation product. Primary contributor to real-time Linux kernel. Upstream contributor to u-boot.

2012-2016: Automotive software engineer at Mentor Embedded Software Division

Linux kernel device driver creation for automotive projects based on Freescale i.MX6 platform. Related work on fastboot and systemd. Co-author of new gstreamer plug-in for customer image-processing IP core. On-site at customer location in Germany for 6 months.

2010-2011: MeeGo Technical Consultant, Nokia Mobility Solutions, Sunnyvale CA

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

Linux kernel and RTEMS device drivers and applications for Fieldbus sensors, power supplies and gigabit cameras.

1997–2009: Advanced development engineer at Hewlett-Packard Labs, Palo Alto CA

1992–1997: Staff physicist at Lawrence Livermore National Lab, Livermore CA

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

20 years of designing and building automated test systems for advanced materials intended for printed electronics, magnetic and optical data storage and landmine detection. Expert-level usage of Matlab and digital oscilloscopes.

2010-present: consulting activities

Hardware adaptation and graphics stack for Open Mobile World Wide's Android virtualization product. Streaming video for medical device on OMAP3; real-time image recognition and pattern-match processing on a mobile handset video stream using Matlab and vlfeat.

Formal Education:

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

Professional: Presenter at linux.conf.au, Embedded Linux Conference, Southern California Linux Expo, Automotive Linux Summit, Maker Faire and many others. Eight issued US patents and over 30 refereed technical publications. Led Silicon Valley Automotive Open Source Group for 8 years.

Personal: US citizen. European Union Zertifikat Deutsch German proficiency; will take B2 test in Sept, 2020. Exclusive Linux user at home and work since 1999. Cycling enthusiast.