

Benjamin Cohen • Software engineer
Master of Engineering (M.Eng) from École Centrale Paris

Experience

2016/06 -	RT/Embedded and Linux kernel engineer at OrCam, Jerusalem • HW/SW integration. System design and implementation of low-power wearables • Linux bring-up on ARM platforms (uboot, kernel, devicetree). Kernel drivers development and maintenance. Low-level kernel debugging and hardware troubleshooting (C/ASM, KGDB, JTAG, scope, logic analyzer). Reverse engineering of proprietary parts • v4l2, spi/i²c, usb, iommu, BT, WiFi, cellular, PM (suspend, idle, cpufreq, pmic, charger) • Low-level real-time MCU firmware development. SoC - MCU communication
2015/07 - 2016/02	Embedded software engineer at Eargo Labs, Netanya • Low-level realtime (C/ASM) development of a BLE-enabled low-power hearing device
2012 - 2015	Software engineer at OpenHeadend, Paris • Design and implementation of innovative IPTV broadcast solutions (live encoder, transcoder, recorder, dynamic audio/video matrix switcher and mosaics, audio processing, live video sequence detection, adaptive bitrate streaming, sound analysis, ...) • Development (C/C++) of upipe (opensource zero-copy lock-less multimedia framework) • Cross-platform (x86, ARM) embedded integration (OpenEmbedded, kernel maintenance) • Troubleshooting (multithreaded app debug, multicast issues, bitstream analysis)
2011 (Apr - Aug)	Software engineering intern at Intel (Digital Home Group), Jerusalem • Implementation of the <i>MoCA Control Protocol</i> (low-level C networking, C++ GUI)
2010/11 - 2011/03	Contract software engineer for SAB System, Paris • Design of an IPTV <i>set-top box</i> (<i>QtWebKit</i>, <i>Broadcom's Nexus/bsettop</i>, C/C++)
2010 (July - Dec)	Software engineering intern at Withings, Paris • Study and design of a sleep-tracking device prototype (hw+sw, realtime, C)
2009 - 2010	Core developer at CRoC (Centrale Robotic Club), Paris • HW/SW (RT/low-level C) design/implementation of an autonomous robot • Ranked 22nd at the French Robotic Cup 2010
2008 - 2010	Network, firewall, system administrator at VIA Centrale Réseaux, Paris • 1200 subscribers, 25 routers, Linux servers, virtualization, IPTV multicast
Summers 2007/2008	Software developer (C/C++) at Realease (digital picture frame design company), <i>Paris</i>

Computer skills

OSes	GNU/Linux, *bsd: sysadmin , dev, daily use
Languages	C, C++, Objective-C, shell, perl, VHDL, L ^A T _E X
Networking	Netadmin: routers (<i>eXtreme Networks</i>), firewalls (<i>netfilter/iptables</i>), *nix TCP/IP, Ethernet, 802.1q, multicast, routing (static, OSPF), encapsulation (PPP, L2TP, GRE, *vpn), IPv6
HA/Virtualization	qemu/kvm, DRBD, iSCSI, multipath, Xen, UML
Embedded (Linux)	Linux (kernel , userspace), u-boot, little-kernel Broadcom (<i>Nexus/bsettop</i>), NXP (iMX), Samsung Exynos OpenEmbedded/BitBake, Buildroot, Scratchbox (maemo), OpenWrt
Realtime/MCU	at91, atsam, stm32, OnSemi, Dialog, 8051, nrf52, FPGA (Xilinx) gdb, gdbserver, kgdb, openocd, radare2, segger/jlink (jtag+gdb), scope, logic analyzer I ² C, SPI, CAN, CSI, USB, Apple MFI, Bluetooth, BLE, WiFi
Video / IPTV	Multicast (udp/rtp, igmp/pim), rtsp, mpeg-ts, dvb, H.264, A/52, SDI, HLS, EBU-R128 v4l2 (kernel, userspace), ffmpeg/libav, upipe , libx264, gstreamer, multicat, dvblast

Education

2008 - 2012	B.Sc+M.Eng from École Centrale Paris ('Grande École'), <i>Chatenay-Malabry</i> Specialized in Computer Science (advanced and embedded systems)
2006 - 2008	<i>Classe préparatoire MP*</i> (Mathematics), Lycée Janson de Sailly, Paris
2006	Scientific <i>Baccalauréat</i> (high honours), specialized in Mathematics, <i>Paris</i>

Miscellaneous

Languages	French (native), English (fluent), Hebrew (professional), Japanese (basic)
Leisure	Music (piano), reading, opensource software, electronics, animes, arcade retrogaming