

**Benjamin Cohen • Software engineer**  
**Engineer's degree (M.Sc./M.Eng) from École Centrale Paris**

## Experience

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<b>2016/06 -</b>	RT/Embedded and Linux kernel engineer at <b>OrCam</b> , <i>Jerusalem</i> Linux bring-up on arm platforms (uboot, kernel, devicetree). Kernel drivers development and maintenance. Low-level kernel debugging (C/asm, kgdb/jtag, scope, logic analyzer) v4l2/vb2, PM (suspend, cpufreq, pmic, gas gauge, charger), spi/i <sup>2</sup> c, usb. Low-level networking with external MCUs. Userspace integration/troubleshooting.
<b>2015/07 - 2016/02</b>	Embedded software engineer at <b>Eargo Labs</b> , <i>Israel</i> Working on the next-generation hearing device Low-level realtime (C/ASM) development of a BLE-enabled low-power in-ear wearable
<b>2012 - 2015</b>	Software engineer at <b>OpenHeadend</b> , <i>Paris</i> Design and implementation of innovative IPTV broadcast solutions (live encoder, transcoder, and recorder, dynamic audio/video matrix switcher and mosaics, audio processing, live video sequence detection, adaptive bitrate streaming, sound analysis, ...) Development (C/C++) of <b>upipe</b> , the opensource <i>flexible dataflow framework</i> Cross-platform (x86, arm) embedded integration (OpenEmbedded, kernel patching) Troubleshooting (code debugging, multicast/networking issues, bitstream analysis, QA)
<b>2011 (Apr - Aug)</b>	Software engineering intern at <b>Intel</b> (Digital Home Group), <i>Jerusalem</i> Implementation of the <i>MoCA Control Protocol</i> (low-level C networking, C++ GUI)
<b>2010/11 - 2011/03</b>	Contract software engineer for <b>SAB System</b> , <i>Paris</i> Design of an IPTV <i>set-top box</i> ( <i>QtWebKit</i> , <i>Broadcom's Nexus/bsettop</i> , C/C++)
<b>2010 (July - Dec)</b>	Software engineering intern at <b>Withings</b> , <i>Paris</i> Study and design of a sleep-tracking device prototype (hw+sw, realtime, C)
<b>2009 - 2010</b>	Core developer at <b>CRoC</b> (Centrale Robotic Club), <i>Paris</i> Hardware and software (RT/low-level C) design/implementation of an autonomous robot Ranked 22nd at the French Robotic Cup 2010
<b>2008 - 2010</b>	Network, firewall, system administrator at <b>VIA Centrale Réseaux</b> , <i>Paris</i> Student organization in charge of the Centrale Paris Campus computer network 1200 subscribers, 25 routers, Linux servers, virtualization, IPTV multicast
<b>Summers 2007/2008</b>	Software developer (C/C++) at <b>Realease</b> (digital picture frame design company), <i>Paris</i>

## Computer skills

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

## Education

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

## Miscellaneous

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<b>Languages</b>	<b>French</b> (native), <b>English</b> (fluent), <b>Hebrew</b> (conversational), <b>Japanese</b> (basic)
<b>Leisure</b>	Music (piano), reading, opensource software, electronics, animes, arcade retrogaming
<b>Sports</b>	Swimming