

Rémi Audebert

System Software Engineer

Uetlibergstrasse 48
8045 Zürich, Switzerland
☎ +41 76 672 92 37
✉ rflah0@gmail.com

Experience

Professional

- Feb 2016 – August 2016 **System Software Intern**, *NVIDIA*, Santa-Clara, California, <https://nvidia.com>.
Developed features for new and upcoming chips in the CUDA driver. Improved NVLink DMA engine scheduling algorithm on high-performance multi-GPU systems: C, Make, Python and shell scripting. Debugged chip and system specific bugs: gdb, windbg, kd.
- Sept 2014 – Jan 2015 **Security consultant intern**, *Secway*, Paris, France, <https://www.secway.fr>.
Reverse engineered the cryptographic security of industrial programmable logic controllers using windbg and IDA Pro. Implemented a subset of the EtherNet/IP protocol with Python. Participated in computer systems security audits, both on-line and on-site CentOS system administration and network infrastructure.
- Jun 2013 – Sept 2013 **Drone telemetry and remote control**, *Aeromapper*, Paris, France, <http://aeromapper.fr>.
Implemented a radio protocol with integrity checks using C++ on the drone and C# for the base station. Camera streaming. Logging system. Managed GPS and inertial data. Linux ARM kernel cross-compilation.

Collaborative and Personal Projects

- Jan 2014 – Feb 2016w **EPITA Laboratory of System and Security**, *LSE*, <http://blog.lse.epita.fr>.
Low-level projects: x86 architecture, working on a IBM PC clone using a FPGA and a 80386SX.
Participant in CTF security contests: solved reverse engineering, exploits and forensics challenges in a contest environment.
- Sept 2011 – now **Prologin contest organizer**, *French national programming contest*, <http://prologin.org>.
Designed and implemented in C++ the game of the finals (2012). Linux system administration (Arch Linux, Ansible) and network operation (NFS, DHCP, DNS, PXE Boot) of 100+ computers (2014 – now).
- Sept 2011 – Jan 2015 **Evolutek<<, robotics lab**, *French robotics contest*, <https://bitbucket.org/evolutek/>.
Software engineering: Wrote a RPC server in C++ then Go with a client library in Python to integrate the sensors, actuators and AI of multiple robots running Linux.
Mechanical engineering: Designed, machined and assembled two robots, integrating multiple actuators and sensors.

Teaching

- July 2015 – Feb 2016 **C and Unix**, *EPITA computer engineering school*.
Teaching Linux, C and C++ programming, both at the system level and for algorithms design.
- Sept 2014 – Feb 2016 **Linux Kernel Development**, *EPITECH computer engineering school*.
Gives Linux kernel development classes and workshops: configuration, device drivers, file systems, memory management, scheduling.

Educational history

- Sept 2011 – Oct 2016 **Computer science student**, *EPITA*.
Engineering degree (Master). Major in system software: operating systems, driver development, real time and embedded software.

Skills

Computer Technologies

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|-----------|--|-------------------|--------------------|
| Languages | C, C++, Python, sh, Verilog, GNU make, C#, Java | Operating systems | GNU/Linux, Windows |
| Tools | Distributed VCS (git, hg), performance, vim, gdb, windbg | Architectures | x86, x86_64, ARM |

Languages

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| English | TOEIC (2014): 990 | French | Native speaker |
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Further informations

Hobbies Reading, Science Fiction, RPGs and Rogue-like