PERSONAL INFORMATION

Giovan Battista · Rolandi

Empoli (FI), Italy (EU)

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gbattista at glgprograms dot it

www.giomba.it

git.giomba.it   github.com/giomba

Nationality Italian (EU)

WORK EXPERIENCE

october 2021 – ongoing — Embedded Linux and software engineer

Job Implementation of Linux device drivers for V4L2 w/ IMX.8 MIPI controller, and custom Yocto distribution for embedded-Linux BSP, with services and application software. Design and implementation of real time bare-bone software for industrial control, and drivers for BeRTOS. Design and implementation of a cooperative task switching mechanism for TI TMS320, with the goal of transitioning from a bare-bone firmware architecture to a more OS-oriented one. Design and implementation of a bootloader tailored for different boards of CNC machines for the TI TMS320 micro family. Implementation of unit and integration tests, both manual and automatic, and pipelines for QA and CI in GitLab. Experience with ARM, AVR and Espressif microcontrollers.

Type Full time

Employer Develer s.r.l.
via San Quirico, 233/2
50013 Campi Bisenzio (FI) - Italy

march 2016 – january 2020 — BSP customization consultant

Job Customization of a Debian-based operating system for Olimex A20 Allwinner A20 SoC. Linux kernel reconfiguration for Mali400 based graphical hardware acceleration, OpenGLES, SDL2 and boot from internal NAND storage; backup automation and software package management; periodic maintenance.

Type External consultant, part time job during University

Employer Electronic Projects s.r.l.
via Tosco Romagnola, 1124
56028 San Miniato (PI) - Italy

april 2021 – september 2021 — Embedded software engineer intern

Job Design Development of a novel CAN-bus based communication protocol for monitoring power supply systems in particle accelerators. Research and analysis of a dedicated communication protocol based on CAN bus, using the latest innovations of the industry, and achieve the best trade off between innovation and backward compatibility.

Type Internship during Master Thesis

Employer CAEN s.p.a.
via della Vetraia, 11
55049 Viareggio (LU) - Italy

october – december 2018	**Cloud provisioning and automation intern**	
Job	Automation for the provisioning of cloud services (SaaS) on OpenStack, with Ansible and custom Python modules; reproducible VMs with cloud-init	
Type	Internship	
Employer	Extra Red s.r.l. via Salvo D'Acquisto, 40/P 56025 Pontedera (PI) - Italy	

EDUCATION

2019 – 2021	**Master Degree in Computer Engineering**	108/110
University	Università di Pisa (Italy), Scuola di Ingegneria, English course	
Thesis	Development of a novel CAN-bus based communication protocol for monitoring power supply systems in particle accelerators	
specializing courses	– advanced computer networking (CoAP/IPv6/6LowPAN/802.15.4, MPLS) – virtualization basics with Intel-VT x86_64 instruction set, and containers – foundations of cybersecurity	

2014 – 2018	**Bachelor Degree in Computer Engineering**	102/110
University	Università di Pisa (Italy), Scuola di Ingegneria	
Thesis	Design and implementation of multiprocessor support for a multiprogrammed kernel (Italian)	
specializing courses	– object oriented programming, algorithms and data structures, C++ STL – electronic computing and operating systems, implementation of an x86_64 kernel via the gcc toolchain and concurrent programming on Unix – computer networks, stack TCP/IP/Ethernet – electronics and electrical engineering basics, signal theory and control systems automation	

PROJECTS

Personal project, 2022 – ongoing	**ceda-cemu**: emulator of the Sanco 8003, part of the *ceda* reverse engineering project: ROM disassembly, custom loader and new peripherals
University project, 2019	**cybrg sftp**: design and implementation of a file transfer protocol, secured against eavesdropping, oracle and replay attacks; uses PKI with libopenssl
Hacklab infrastructure, 2018 – ongoing	**ipv6@golem**: design and implementation IPv6 VPN, tunnel and address plan, for the local town hacklab headquarters and members; occasional maintenance (link in Italian)
Personal project, 2017 – 2022	**snake6502**: clone of a Snake-like game for Commodore 64 computer, with cartridge

TECHNICAL SKILLS

Technical skills	– **C** (advanced) proficency with the language, GNU and TI toolchains, make, cross-compilation – **git** (advanced) proficency with both command line and common web-enabled interfaces – **Rust** (intermediate) written some production-level software – **scripting** (intermediate) bash, python – **containers** (intermediate) builds reproducibility and automation – **networking** (intermediate) IPv4 and IPv6, VPN and PKI, network equipment and Linux

PERSONAL SKILLS

Mother tongue	Italian
Second language	English
Driving licence	European type B

TALKS

Fosdem, 2024   *A journey documenting the Sanco 8003 computer*, with G. Fieramosca

ADDITIONAL INFORMATION

2016 – 2023   ### Volunteering at GOLEM, Empoli's Linux club
System and network administrator of VPSs and on-premise servers, VPN, and IPv6 tunnel. Design and implementation of a disaster recovery plan, (un)fortunately put in action after the Strasbourg incident at OVH datacenters, with minimal data loss and limited downtime.

type   Volunteering

contact   golem.linux.it – via Magolo, 32 50053 Empoli (FI)

Hobby   – I like to clear my mind by hiking.
– I collect home-computers from 70s to 80s, and hack with their hardware and software.

You may want to visit my website to see other projects, or click on the links in this document.

Privacy note   Usage of this data is hereby allowed under current privacy laws (IT DL 196/30.06.2003 and GDPR), for job selection purposes.