Nando Marcel Galliard

Junior FPGA/SoC Firmware Engineer

Zurich | Switzerland | Swiss citizen

+41 79 349 43 13

nando.galliard@hotmail.com

linkedin | github/nandogalliard

ngalliard.ch contains all project papers

Work

Junior FPGA/SoC Firmware Engineer *03/2023 - present*

Enclustra Zurich

Develop Reference Designs and Application Notes for FPGA/SoC products. Perform bring-ups of new products and custom boards. Develop application-specific embedded solutions for customers.

Corporal - Team Leader Telematics *09/2019 - present*

Civilprotection - Grisons FU GFS Cavalcade 3

Organise and teach the repetition course for the function of state support On actual deployment leader of group of up to eight people which hold a command post

Education

Master of Science ETH Zürich *09/2020 - 03/2023*

Electrical Engineering & Information Technology

Major: Embedded systems design and very large systems integration

Minor: Communication networks and machine learning

Bachelor of Science ETH Zürich *09/2016 - 08/2020*

Electrical Engineering & Information Technology

Major: Communication networks and very large systems integration

Minor: Powerelectronics

Matura *09/2008 - 07/2014*

EMS Schiers, Grisons

Major: Mathematics and Physics | Minor: European History

Skills

Programming Languages	***Experienced:*** Python | C
	Familiar: C++ | VHDL | Bash | Powershell | SQL | Matlab
Frameworks	Docker | GIT | CLI | Office | Backend Developer
Libraries	Jupyter | Matplotlib | Numpy | Pandas
	Scikit-learn | Tensorflow (Keras)
Embedded Design	Altium | Zephyr | nRF Connect | Petalinux | FreeRTOS
Languages	***Native:*** German ***Fluent:*** English

Reference available upon request. | All papers visible on website.

Projects

Master Thesis *08/2022 - 02/2023*

Desiged and validated a combined power tracer and sensor emulator for the evaluation of embedded hardware / software system designs

The product is a FPGA based source measurement unit with 6 analog power channels, power delivery, logic ports and sensor emulation for device under test.

Tools & Technologies: C, C++, Python, VHDL, Altium, Git, Latex, FreeRTOS

Fusion of BLE direction finding and UWB ranging for indoor localization *03/2022 - 05/2022*

Semester Thesis #2

Designed and validated single anchor localization system by combining BLE angulation and UWB lateration with Zephyr real-time operating system based firmware.

Tools & Technologies: C, C++, Python, Zephyr, nRF Connect, Git, Bash, Latex

Battery-less always-on smart camera with Sigfox Networks *11/2021 - 02/2022*

Semester Thesis #1

Designed and validated a smart camera with on-site energy harvesting with solar panel, face recognition with Tensorflow C and data transmission with long range wireless access network.

Tools & Technologies: C, C++, Python, STM32 Cube IDE, Altium Nexus, Tensorflow C, Git, Latex

Satellite Land Use Mapping for Rapid Infrastructure Planning *09/2021 - 12/2021*

Automatically mapped complex urban land use patterns from highres satellite images with .

Employed CycleGAN related style-transfer approach to generate synthetic image-label pairs for an unlabeled target domain by leveraging data from a labeled source domain.

Tools & Technologies: Python, Tensorflow (Keras), Pandas, Git, Latex

Fictional business proposal on the creation of a big data based guide *02/2021 - 05/2021*

Department of Management, Technology, and Economics, ETH Zürich

In a case project assumed the role of a consultant to Migros and proposed an opportunity to use existing technology and resources to further digitalize the company and connect online platforms in order to create a user-friendly environment that could be used as a recommendation system.

Tools & Technologies: Office, Latex

Building a mini-Internet *02/2020 - 12/2021*

Enabled end-to-end connectivity across 80 Autonomous Systems

Assumed system admin role of single autonomous system composed of hundreds of network devices. Implemented classic routing negotiation protocols to outside AS, inside own AS implemented features including Link failure detection, load balancing and traffic control.

Tools & Technologies: Python, Bash, FRRouting, Git, Latex