EUROPEAN CURRICULUM VITAE FORMAT

CURRICULUM VITAE

(redatto in conformità al vigente modello europeo – D.lgs. 33/2013, artt. 10, 14, 15, 15bis, 27)

PERSONAL INFORMATION

Name	OLIVIERI ENNIO
Address	-
Telephone	-
E-mail	-

- Nationality -
- Date of Birth -

WORK EXPERIENCE

 Dates (from - to) 	03/2021 - 01/2022
 Name of the employer 	La Sapienza – Ferrari S.p.A.
 Occupation or position held 	Thesis student
 Main activities and responsibilities 	I took part as a researcher for La Sapienza in a project commissioned by Ferrari S.p.A. regarding the batteries aging in the context of electric vehicles. The aim was the analysis and improvement of a machine learning model (previously developed by Ferrari) able to estimate the aging. The work involved extensive scientific paper review and implementation of the state-of-the-art algorithms, periodical meetings and discussions with Ferrari batteries field experts and La Sapienza machine learning field experts, teamwork with other master students. The software tools were developed totally in MATLAB and Simulink.

EDUCATION AND TRAINING

 Dates (from - to) 	09/2018 - 01/2022
 Name of organisation 	Department of Information Engineering, Electronics and
providing education and	Telecommunications
training	<u>University of Rome "La Sapienza"</u>
Title of qualification	Master's Degree in Electronic Engineering
awarded	Master thesis: "A physics-inspired Fuzzy Inference System
	Ensemble for Li-ion cell aging estimation".
	Final score: 110 cum laude/110

Principal subjects covered

Digital Integrated System Architectures

Covered advanced aspects of digital VLSI design at circuit level, Register Transfer Level, and microprocessor architecture level. Introduced the effective usage of hardware description languages (mainly VHDL) for FPGA and ASIC design.

Digital Systems Programming

Explored the software design techniques, mainly based on C/C++ language, from the electronics engineer's perspective. Course delivered totally in a Linux environment. Notions concerning Bash scripting language were also given.

Embedded Systems

Aimed at giving an in depth knowledge on Embedded Computer Architectures, starting from the hardware to understand its interaction with software/firmware. Particular attention was given to microcontrollers, ISA, memory map, GPIO devices, timers, interrupt mechanisms, communication protocols (USART, I2C, CAN, SPI), and programming toolchain.

Distributed Computing for Circuits and Systems

Provided basic notions about designing circuits and algorithms solving information processing problems based on data-driven learning, and about their realization on parallel and distributed systems (GPU, FPGA).

Pattern Recognition

Explored basic supervised and unsupervised algorithms, classification systems and their performance parameters. Introduced fuzzy logic and genetic algorithms.

Laboratorio multidisciplinare di elettronica

- <u>Analog Lab</u> Aimed at the analysis of radiofrequency devices using typical instrumentations (vector network analyzer and spectrum analyzer).
- <u>Digital Lab</u> Developed a small RTL design by means of synthesizable VHDL, written a testbench, and performed the synthesis on FPGA (going through translate, mapping and place & route processes), using typical digital design tools.

Machine Learning for Signal Processing

Aims at presenting the main machine learning and deep learning paradigms and applying them for the processing of a variety of signals in order to detect and unveil a possible hidden structure in signals, thus recovering a desired information.

<u>Microonde</u> <u>Componenti Elettronici Integrati</u> <u>Circuiti a tempo discreto</u> <u>Sistemi Elettronici a radiofreguenza</u> <u>Matematica discreta</u>

 Dates (from - to) Name of organisation providing education and training Title of qualification awarded 	09/2014 - 03/2018 Department of Information Engineering, Electronics and Telecommunications <u>University of Rome "La Sapienza"</u> Bachelor's Degree in Electronic Engineering Final score: 108/110
PERSONAL SKILLS AND COMPETENCES	
MOTHER TONGUE	ITALIAN
OTHER LANGUAGES	ENGLISH
• Reading	B2
Writing	B2
Speaking	B1
TECHNICAL SKILLS AND COMPETENCES	<u>Programming</u> : C/C++, Python, MATLAB, Bash, small experience in high level GPU programming with Thrust (NVIDIA) library
	<u>Digital design tools</u> : VHDL, ModelSim
	<u>Embedded systems HW/SW architecture</u> : ISA, Memory map, GPIO, Timers, PWM, watchdog, interrupt mechanisms, communication protocols (USART, SPI. I2C, CAN), ADC, software toolchain (compiler, assembler, linker), GNU compiler and binutils, linker script, makefile
	<u>Electronic instruments</u> : Oscilloscope, function generator, digital multimeter, spectrum analyzer, vector network analyzer

Machine learning models and algorithms

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali.