EUROPEAN
CURRICULUM VITAE
FORMAT

PERSONAL INFORMATION

Name	**LUIGI BLASI**
E-mail	
Nationality	**ITALIAN**

EXPERTISE

Design and implementation of digital hardware as well as software focused on control and signal processing based on microcontrollers, ASIC/FPGAs, DSP and GPU for space and defense applications.

WORK EXPERIENCE

• Dates (from – to)	January 2015 – February 2015
• Name and address of employer	MRO/SHARAD Operations Manager (Sapienza University Of Rome, ASI, NASA)
• Type of business or sector	Operational deep-space mission.
• Occupation or position held	Application Software Developer
• Main activities and responsibilities	Update to existing telemetry analyzer to manage Memory Dumps from MRO/SHARAD engineering telemetries. The update enables the user to extract from the telemetry stream the Memory Dump packets and reconstructs the memory image being downlinked. Work environment: GNU/Linux, C Language.

• Dates (from – to)	January 2014 – March 2016
• Name and address of employer	BIS-Italia
• Type of business or sector	Advanced educational activity
• Occupation or position held	Digital Hardware Designer Application Software Designer
• Main activities and responsibilities	Digital Hardware design and System Testing of a Rover, which emulates a real Mars Rover on-board systems. Design of the application program for Rover Control which implements Telemetries/Tele commands, real-time scheduling and fail-safe handling. Work environment: C Language, AT Mega 328, Arduino UNO board and IDE, GNU/Linux, AVR Studio, Time Triggered Architecture

• Dates (from – to)	January 2014 – March 2016
• Name and address of employer	BIS-Italia
• Type of business or sector	Advanced educational activity
• Occupation or position held	GUI Application Software Designer
• Main activities and responsibilities	Design and Programming of a GUI used for Rover Remote control, interfacing with RS232 UHF Transmitter Module. It provides single and timeline upload capability, multi-windows visualization and OS threads handling. Work environment: GNU Linux, C++ Language, Qt Framework.

• Dates (from – to)	May 2013 - September 2013
• Name and address of employer	BIS-Italia
• Type of business or sector	Space applications and technology demonstrations
• Occupation or position held	Firmware Designer
• Main activities and responsibilities	Design and Implementation of a portable compact Ionizing Radiation Detector using photodiodes, OP amps and AVR ATmega328 microcontroller. I designed the Application program used to detect particle pulse and store data on SD card. Work environment: C Language, AT Mega 328, Arduino UNO board
• Dates (from – to)	September 2013
• Name and address of employer	Instituto Europeo di Design - Moreno Onori
• Type of business or sector	Game Hardware (Musical Chair) - Design and implementation of Musical Chair Game
• Occupation or position held	Application Program Designer
• Main activities and responsibilities	Firmware design and programming of control system for a MUSICAL CHAIR GAME based on ARDUINO UNO platform. Work environment: C Language, AT Mega 328, Arduino UNO board, Power Leds Driving ICs, Touch Sensors.

EDUCATION AND TRAINING

• Dates	September 2011 – July 2017
• Name and type of organization providing education and training	Sapienza, University Of Rome
• Principal subjects/occupational skills covered	Circuits and Algorithms for Information Processing
• Title of qualification awarded	**Master Degree Thesis** which is "Space-qualified design and validation of a fault-tolerant RISC microcontroller core in FPGA "with a degree mark of 110/110 cum laude. My master degree thesis was focused on design, implementation, verification and validation of a fault-tolerant VHDL Microcontroller Unit soft-core which is compatible with the Microchip PICmicro Midrange Device HW architecture and SW Instruction Set. This has been made following the ECSS-Q-ST-60-02C "ASIC and FPGA development" design flow and the ECSS-Q-HB-60-02A "Techniques for radiation effects mitigation in ASICs and FPGAs handbook" design guidelines, in order to qualify the design to operate in the space environment. This thesis has been done in collaboration with University of Rome "Sapienza" (Prof. Mauro Olivieri, DIET) and LEONARDO (Ing. Davide Fiorini, Airborne and Space division). Work Environment: MPLABX IDE, XC8 Compiler, Modelsim IDE, ALTERA Quartus Prime, Microsemi Libero IDE, Synplify Pro,
• Level in national classification	**Laurea Magistrale in Ingegneria Elettronica** – Circuiti ed Algoritmi per l'Elaborazione Dell'Informazione (110/110 e lode)
• Dates	January 2016 – September 2016
• Name and type of organisation providing education and training	Prof. M. Panella - Sapienza, University Of Rome
• Principal subjects/occupational skills covered	SW Developing
• Title of qualification awarded	Implementation of a Grid-Clustering Membership-function based Algorithm for Image Clustering on a NVIDA CUDA GPU. The application program performs a custom fuzzy K-means clusters analysis on 2D dataset for a given value of resolution thresholds using Davies-Bouldin and Double-Weighted Davies-Bouldin as clustering validity indexes. Work environment: GNU Linux, C language, NVIDIA NSIGHT Eclipse IDE, CUDA 7 toolkit
• *Level in national classification*	***Academic Design equivalent to an exam***

• Dates	18th October 2012 – 27th November 2012
• Name and type of organisation providing education and training	ESMP (European School Of Medical Phisics) - 2013 session Geneve (Switzerland) Place: Archamps (France)
• Principal subjects/occupational skills covered	Week I - Medical Imaging: Principles, Ultrasound and Radiology Week II - Medical Imaging: PET, SPECT and Magnetic Resonance Week III – Medical Computing
• Title of qualification awarded	**Certificate of Attendance & Success released from ESI** (European Scientific Institute)
• Dates	3th February 1012– 15th March 2012
• Name and type of organisation providing education and training	Organization: JUAS 2012 session (Joint University Accelerator School) – Geneve, Switzerland Place: Archamps (France)
• Principal subjects/occupational skills covered	Course II - Technology and Applications of Particle Accelerators
• Title of qualification awarded	**Certificate of Attendance & Success released from ESI** (European Scientific Institute)
• Dates	2012-current
• Name and type of organisation providing education and training	Field Effect Labs (Makers Team)
• Principal subjects/occupational skills covered	Digital Hardware and Application Software Design
• Title of qualification awarded	

- 1° Position 2012 – Best MICROSOFT® KINECT® Hack during Codemotion 2012 Rome Hackaton Competition
- 2° Position 2012 – Best INTEL® AppUp® during Codemotion 2012 Rome Hackaton Competition
- 1° Position 2013 - FILAS Best Digital App **"ePass"** referred to "Open Data For Better Quality Of Life " during Codemotion 2013 Surprise Hackaton Competition
- Joined the NASA International Space App Challenge Hackaton Competion 2013 devoloping an HW platform for Data Acquisition using a CubeSat.
- 3rd Position Classification during NASA International Space App Challenge Hackaton Competion 2015 for developing ARMstrong Glove (https://2015.spaceappschallenge.org/project/smarthand/)

• Dates	2013 - current
• Name and type of organisation providing education and training	BIS-Italia
• Principal subjects/occupational skills covered	Advanced educational activity during the following events :

- European Researchers Night 2013 in ESA-ESRIN (Rome)
- Maker Faire Rome 2013 in Rome
- ESA Open Days for Schools 2014 in ESRIN (Rome)
- Festival delle Scienze 2014 (Agrigento)
- European Researcher's Night 2014 in ASI – Agenzia Spaziale Italiana (Rome)
- World Space Week 2014 (Sapienza, University of Rome)
- Festival delle Scienze 2015 (Agrigento)
- European Researchers Night 2015 in ASI – Agenzia Spaziale Italiana (Rome)

• Dates	2006 - 2011

• Name and type of organisation providing education and training	Sapienza, University Of Rome
• Principal subjects/occupational skills covered	Thesis: Home Remote Control Systems - Design and Realization of Embedded systems Prof. Ing. Piero Marietti – Sapienza, University Of Rome
• Title of qualification awarded	**Laurea Triennale in Ingegneria Elettronica (94/110)**

• Dates	2001 - 2006
• Name and type of organization providing education and training	Liceo Innocenzo XII, Anzio (RM) – Scientific High School
• Title of qualification awarded	**Scientific High School Diploma**

TECHNICAL SKILLS AND COMPETENCES

- VHDL hardware description language
- Mentor Modelsim, Altera Quartus Prime, Libero IDE, Synplify Pro
- ANSI C and C++ programming languages/GCC compiler
- NVIDIA CUDA HW architecture and CUDA C programming language
- NVIDIA Nsight™ Eclipse Edition IDE
- ARDUINO and ATMEL studio IDE
- TCL scripting language
- Microchip MPLABX IDE and XC8/XC16 compiler
- Cadence ORCAD 16.6 HW simulation and design tool
- ALTIUM PCB Designer 17
- SystemC Embedded System Modeling Language
- MATLAB computing environment
- Qt framework and Qt Creator IDE
- Linux OS such as Ubuntu (10.04/12.04/14.04/16.04), Linux Mint (17/18), Deft & Kali
- BASH scripting language
- Windows OS (XP/7/8/8.1/10)
- Microsoft Office 2013/2016 suite
- UML 2.0 & SysML
- UART, SPI, I^{2}C, CAN, LIN, Ethernet, Bluetooth protocols

- Good PC assembly and repairing capability
- Good HDD data recovery capability using both Windows and DEFT/KALI Linux OS.
- Good practice in design and HW realization of electronics boards for audio and home control applications, such as modified guitar stomp boxes, stabilized power supply, home remote-control systems.
- Good video editing and audio editing/mixing capabilities for dance school musicals and private parties.
- Good knowledge of Adobe Photoshop CC, Adobe Light Room CC, Adobe Premiere CC, Pinneacle Studio 18
- Good Knowledge of Cubase 5 DAW.

**PERSONAL SKILLS
AND COMPETENCES**

MOTHER TONGUE   **Italian**

OTHER LANGUAGE   **English**