M. SALIM FARISSI, Digital Electronic Engineer for aerospace applications

Master degree in Aerospace Engineering, Italy.
Engineer degree in Electronic Systems and Telecommunications, Morocco.

EDUCATION

2016-2018: Special Master in Aerospace Engineering *(2 years)*
Sapienza University of Rome -Scuola Di Ingegneria Aerospaziale, Rome.
The learning objective is training experts that can be employed in advanced research and development centers in aerospace engineering.

2014: Engineering degree in Electronic Systems and Telecommunications *(3 years)*
Moulay Ben Abdellah University, Faculty of Sciences and Technologies, Fez.
Computer networks and information technology, design and installation of electronic and telecommunication systems.

2011: "Classes préparatoires aux grandes écoles" *(2 years)*
Electrical engineering, Oujda.

2009: High School *(12 years)*
Electrical Science, Technical High School, Taza.

PROFESSIONAL EXPERIENCES

2019-Present: Research assistant at Sapienza University

- Responsible for the development, tests, and integration of an OBC based on SRAM-FPGA.
- Responsible for the implementation of mitigation of radiation risks using software techniques.
- Responsible for the setup of Hardware-In-the-Loop platforms for hardware and software validation.
- Responsible for design, implementation, and test of variety and innovative solutions of ADCS.
- Writing design reviews and reports.

2016-2018: Master's thesis (Aerospace Engineering)
Helmholtz Cage calibration and Active Magnetic Control Design and Testing for CubeSat missions. This setup allows ADCS to be verified, using real on-board systems, evaluating their performance and indicating eventual design criticalities.

- Design and perform the coils and current driver board to produce the desired control action, within the constraints set on the time of operations, power consumption and electric current.
- Develop and implement of de-tumbling and a pointing algorithm on FPGA.
- Setup and develop of Hardware in the loop, using System Generator, to verify the performance and robustness of the control algorithms and simulating critical scenarios.
- Implement PID control in Matlab to drive the Helmholtz cage facility to accurately recreate the magnetic field along the spacecraft orbit.
- Calibrate and verify the magnetometer by using Least Square Method and Helmholtz cage facility.

2014-2015: Internship in HUAWEI Technologies
Study and planning of NGWDM 100G system on the network "Morocco Telecom" and coexistence between 10G and 100G systems.

2013: Internship in the National Telecommunications Regulatory Agency.
Setup of a network traffic monitoring tool and developing a web interface to provide real-time visibility into the network bandwidth performance.

2013: Didactic project (parking management system).

2012: Internship in the Ministry of Tourism (familiarizing with the working environment).

2011: Didactic project (automate lighting control system to reduce energy consumption).

SKILLS

Aerospace
ADCS, GNC, electronics for space systems, robotic systems, aerospace trajectories, Formation flying.
Electronics
FPGA, MCU, design and construction of PCB, embedded system, VLSI, communication peripherals (I^2C, SPI, UART, AXI).
Telecommunications
Optical communication, source and channel coding, signal processing, radio frequency communication, SDR.
Programming Languages
VHDL, SystemVerilog (UVM), TCL, C/C++, Embedded C.
Software
Matlab, Simulink, System Generator, Vivado, ModelSim, WrightRapid, Altium, Code Composer Studio, Arduino, GNU Radio.
Others
Basics in project management, Concurrent Engineering and Mission Analysis.

PERSONAL CAPACITY

Sense of responsibility, work motivation and professionalism.
Good capacity for learning and applying new techniques.
Rigorous, punctual, tireless.
Autonomous and able to work in a multidisciplinary team.

LANGUAGES

Arabic & Tamazight: Fluent.
French & English: Good.
Italian: Basic.