



Fernando Franco

Curriculum Vitae

Personal Data

Date of Birth 12 November 1981

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Summary

Ph.D. SW Engineer with a solid professional background in the overall SW life-cycle from architecture design, through implementation until testing and integration. Good knowledge of real-time, embedded and safety-critical systems and significant research experience in computer vision and image processing. Passionate about developing algorithms and experimenting with new technologies. Highly organized with strong capacity to prioritize workload, reach the goals and complete the projects within deadlines. Skilled in interfacing with customers/suppliers and working proactively in multidisciplinary teams.

Experience

2017–present **Senior SW Developer**, *ABB*, Turgi, Switzerland.

- Design, development and implementation of software for the AC800PEC platform, working in a SAFe agile setup.
- Development of Downloadable Kernel Modules in VxWorks based systems.
- Implementation of SW components interfacing the AC800PEC platform with real-time applications (i.e. Simulink, Codesys)
- Handling of SW configuration management and build processes as well as of development and test environments.

2015–2017 **SW Engineer TCMS**, *Bombardier Transportation AG*, Zürich, Switzerland.

- Development of a generic SW solution for the driver display according to the ETCS standard: the solution is going to be used in the next generation of Bombardier locomotives.
- Design, development and implementation of visualization software for TRAXX South Africa locomotives: full customer acceptance, commissioned.
- Concept preparation, requirements formulation and implementation of diagnostic software for TRAXX MS locomotives: assessment completed within the deadline.
- Execution of module and system test in the laboratory and on the locomotives.

2010–2015 **R&D SW Engineer**, *GE Transportation*, Florence, Italy

- Design, development and implementation of software for a generic real-time and safety critical platform (GE Tempo) used for train control and signaling applications. The platform

- was selected to equip Singapore metro lines and qualified to equip Hong Kong metro lines.
- Design, implementation and test of software for an high-precision odometer system equipped with different sensors (wheel speed, radar motion, balise transmission module).
- Implementation of software for different embedded platforms:
 - multiplatform microkernel and memory-management system;
 - device drivers and communication protocols;
 - bootloaders for remote upgrade of firmware over network.

- 2009–2010 **Computer Scientist**, *Media Integration and Communication Center*, Florence, Italy.
- Development of a new algorithm to estimate the 3D local pose of surface elements corresponding to image key-points using statistical learning.
 - Implementation of algorithms for content-based image retrieval and image processing.

Education

- 2010–2013 **Doctor of Philosophy (Ph.D.)**, *University of Florence*, Italy.
- Computer Vision and Image Processing algorithms
 - Machine learning and Pattern Recognition
- 2006–2008 **M.Sc.**, *University of Florence*, Italy, *110/110 cum laude*.
- Computer Engineering.

Languages

Italian **Native**
 English **Fluent**
 German **Basic**

Skills

Core competencies	Embedded, real-time and safety-critical systems; algorithms; computer vision and image processing.
Languages	Proficient in C and C++, Familiar with Java, Python and Matlab
IDE	Emacs, Eclipse, MS Visual Studio, Matlab, Xilinx SDK, Code Composer Studio, Freescale Codewarrior, VxWorks Workbench
SW Tools	GIT, SVN, Jenkins
Other Tools	IBM rational DOORS, Polarion, SysML MagicDraw
Platforms	ARM, PowerPC, MicroBlaze
OS	Linux, Windows, VxWorks
Bus	Ethernet, Modbus, TCP/IP, SPI, I2C, RS232, USB.
Standards	CENELEC (50-126, 50-128, 50-129) and other rail standards.
Training	Scrum master certification, Six Sigma White Belt, Triz problem solving, Influencing skills.

Publications

A list of publications in international Computer Vision and Image Processing conferences/journals is available upon request.