Jordi **Vila**

ELECTRICAL ENGINEER · TELECOMMUNICATIONS AND SPACE SYSTEMS FOCUS

Maryland. United States of America

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"Luck is when determination meets opportunity."

Experience

NASA - Goddard Space Flight Center
Washington D.C. metro area, USA

SPACE SYSTEMS ENGINEER - ASTROPHYSICS DIVISION
Apr. 2014 - Present

- Space Systems Engineer on a Stratosphere Balloon Telescope: BETTII scheduled to Launch in spring 2017.
- Electrical and Attitude control systems lead engineer : Developed the Pointing & Position estimator algorithm based on the Kalman filter running on FPGA that uses gyroscopes, starcamera, accelerometers and other input sensors to command different actuators in order to point the telescope in space and precisely track stars at float altitude.
- Built a software and hardware testbed for the Telemetry System infrastructure (frame Sync, CRC error detection, bandwidth adjustable). Performed telemetry integration on the Flight-rehersal Campaign (Fall 2016, New Mexico)
- Hands-on project : worked on the GPS system (NMEA), PCB Boards design, DC motors, power distribution system, energy consumption and temperature monitoring systems and software for super-sensitive star detectors, among others.
- Supervised a team of 3 interns and Graduate Students.

Phoenix Drone
Washington D.C. metro area, USA

OWN PROJECT
Dec. 2015 - Present

- Leveraging my experience on the controls system of the telescope, I developed the full software infrastructure for a quadcopter flight controller based on the atmega2560 microcontroller. 📂 Click for more.

Airbus - SUPAERO
Toulouse, France

AERONAUTICAL ENGINEERING STUDENT TRAINEE
Sept. 2013 - Mar. 2014

- Image processing for Drones. Project based on the Söbel algorithm, which detects the outline of the drones' nearby objects.
- Space - Earth optical communications link. Innovative project dealing with channel modeling, signal characterization, network architecture and Matlab simulation.

ATOS - Tempos21
Barcelona, Spain

SOFTWARE ENGINEER
Feb. 2012 - Aug. 2012

- Working at the Research & Development department under the international project ADAPTA evaluating the feasibility for android mobile applications to work with Linked Data.

ATOS - London 2012 Olympic Games
Barcelona, Spain

TELECOMUNICATION ENGINEER STUDENT
Oct. 2011 - May 2012

- Developed a complex android application for London 2012 Olympic Games. Ranked 5th out of 77 teams around the world.
- App based on a match-making geolocation chat. Java application coding, server coding, user interface design, business model, monetization of the idea and promotion. Click to watch videos: ▶ Example of use & ▶ Tutorial.

Skills

Programming	Java, Android SDK, C/C++, Atmel AVR microcontrollers, git version control, i^2c protocol.
Applications	LabVIEW FPGA, Express PCB, atom, Eclipse, OMNeT++, Matlab, Photoshop, Slack.
Lab. Equipment	Analog and Digital circuit design, oscilloscope, spectrometer, optical equipment, RF & Bluetooth communications.
Languages	English, Spanish, French and Catalan. Italian (Beginner).

Education

Higher Institute of Aeronautics and Space (ISAE - SUPAERO)
Toulouse, France

AERONAUTICAL ENGINEERING. SUPAERO 3RD YEAR GRADUATE PROGRAM
Aug. 2013 - Mar. 2014

- Selective education establishment outside the main framework of the French university system, dependent of the Ministry of Defense.
- Field of study: Embedded Systems in airplanes. Specialization: Space communications, navigation and satellite networks.

Polytechnic University of Catalonia (UPC -ETSETB)   *Barcelona, Spain*

MSc Telecommunications Engineering   *Sept. 2011 - Jun. 2013*

- **Master Thesis with Honors (9.5/10):** Telemetry System of the Balloon Experimental Twin Telescope for Infrared Interferometry (NASA Goddard Space Flight Center).

Polytechnic University of Catalonia (UPC -ETSETB)   *Barcelona, Spain*

BSc Electrical Engineering   *Sept. 2008 - Jun. 2011*

- Focused on Signal Processing, Radio communications, Telematics, Internet of Things, Optical Communications and Antennas.

Volunteering & Writing

Horizon Horseback Safaris and Ishestar   *South Africa, Botswana and Iceland*

Horseback safari guide   *Summers 2009, 2010 & 2011*

- Volunteering as a tourist guide on horseback trails in Iceland (2013), South Africa and Botswana (2011 and 2009).
- Training and preparation of more than 80 horses. Horse Guide for safaris at reserve of Lindani and Dinaka (South Africa) and Mashatu Valley (Botswana).

Ecuestre Horse Magazine & family-run business Equitur   *Sahara Desert and African Savanna*

Endurance program tester and Freelance journalist   *2008-2012*

- Tested endurance horseback trails in the Sahara Desert (Tunisia) as well as in the African Savanna's remote areas (South Africa, Botswana and Zimbabwe) and did equestrian reports published in various specialized magazines in Spain and Mexico. Click to read : El Mundo del Caballo 🗎 and Ecuestre🗎

Union Bank of Switzerland (UBS)   *Barcelona, Spain*

Market Analyst   *Aug. 2008*

- Conducted a comprehensive study on the cost and quality of life in Barcelona city for UBS Magazine.

Committees

2016	**SPIE**, Member of the International society for optics and photonics.	*Washington D.C.*
2013	**EUROAVIA**, Member of the European association of aerospace students.	*Toulouse*
2011	**Aucoop**, University association dedicated to cooperation and development of technology in rural areas. Participating in a project to install Wi-Fi repeaters in México and Bolivia.	*Barcelona*
2010	**Student Organization**, Member of the of Academic Committee of Evaluation of the Telecommunication Engineering School.	*Barcelona*