Sergi Pons Freixes

Curriculum Vitae

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▬▬▬ Experience

2018–present **Engineering Manager**, *Eastridge Workforce Solutions*, California.
Responsibilities:
- Ensure the Eastridge Cloud scalability, stability and availability
- Be responsible for optimizing the Eastridge Cloud performance
- Determine the best practices for code quality
- Design and build modular applications and APIs
- Improve efficiency and clear roadblocks for software engineers to achieve their peak performance
- Create, delegate, coordinate, and prioritize development tasks
- Meet with internal and external clients to understand their needs and business objectives

2016–2018 **Lead Engineer**, *Eastridge Workforce Solutions*, California.
Same duties as a Software Engineer, with the additional responsibilities:
- First responder to engineering requests, bugs and alerts
- Creation, delegation, prioritization and coordination of engineering tasks
- Responsible for code quality
- Deployment of code to QA and production systems

2015–2016 **Software Engineer**, *Eastridge Workforce Solutions*, California.
Responsible for designing and building modular applications and RESTful APIs using:
- Python web frameworks (Pyramid)
- SQL object-relational mappers (SQLAlchemy)
- Version control systems (Git with Gitflow)
- Collaborating with front-end engineers

2013–2014 **Performance Simulation Engineer**, *Rhea Group - European Space Agency, System Support Division*, Netherlands.
Expert on the System Performance Simulator and the Ground Processor Prototype for the Sentinel 3 satellite.
- Responsible for the simulators and processors, including:
  - Operation and control of the hardware and software infrastructure
  - Corrective and evolutive maintenance
  - Support to the analyses performed
- Planning, execution and evaluation of data generation and processing tasks
- Development of helper tools and software useful for related activities

2011–2013 **Spanish Trainee**, *European Space Agency, Earth Observation Exploitation and Services Division*, Italy.
Assess the viability of remote sensing coral monitoring, including:
- Identification of users, needs, state of art
- Proposal, implementation and evaluation of data processing methodologies using MERIS products (BEAM, NumPy-SciPy, matplotlib)

2007–2011 **Assistant Researcher**, *Marine Technology Unit-Spanish National Research Council (UTM-CSIC), Department of Research and Technological Innovation*, Spain.
- Design and development of hardware (gEDA, Altium P-CAD) and software (PIC assembler, dsPIC C) for embedded systems and hyperspectral sensors
- Design and development of software for workstations:
  - Control and communication to external hardware (Python, Tkinter GUI)
  - Data and video processing with signal processing algorithms and artificial intelligence (OpenCV, NumPy-SciPy, Orange toolbox, MATLAB)
  - Data visualization (matplotlib)
- Simulation of hyperspectral scenarios with the radiative transfer numerical model HydroLight-EcoLight
- Collaboration on several research projects funded by the Spanish National Research Council and the Spanish Ministry of Education and Science
- Supervision of Master Thesis'

2004–2006 **Assistant Researcher**, *Polytechnic University of Catalonia (UPC)*, Spain.
Development of hardware and software for workstations, embedded systems and hyperspectral sensors

Advisor of Master Thesis

Title	*Sistema de processat d'imatges per observatoris oceanogràfics*
Author	Albert Martin
Institution	Polytechnic University of Catalonia (UPC)
Description	Image processing system for oceanographic observatories
Year	2010

Title	*Desenvolupament d'una eina Software per al control d'espectròmetres a través de dispositius PDA*
Author	Núria Pujol
Institution	Polytechnic University of Catalonia (UPC)
Description	Development of software to control and acquire data from spectrometers using PDA devices
Year	2008

Education

2007–2015 **Doctor of Philosophy (Ph.D.)**, *Polytechnic University of Catalonia (UPC) and Marine Technology Unit, Spanish National Research Council (UTM-CSIC)*.
Do-it-yourself instruments and data processing methods for developing marine citizen observatories
Supervisors: Jaume Piera, Luigi Ceccaroni
Demonstration of how open source software and low-cost do-it-yourself hardware are effectively applied to oceanographic research and how can it develop into citizen science
Collaborations:
- 2010, five months stay at the Monterey Bay Aquarium Research Institute (MBARI), Moss Landing (California, USA)
- 2008, three months stay at the Department of Computer Science and Information Sciences, University of Strathclyde, Glasgow (Scotland)

2004–2006 **Master degree in Telecommunications Engineering**,
Polytechnic University of Catalonia (UPC).

| 2000–2004 | **Telecommunications Engineer**, |
| | *Polytechnic University of Catalonia (UPC).* |

Master of Advanced Studies

Title	*Advanced Studies Diploma in Signal Theory and Communications Doctorate*
Description	For completing the teaching and research stages in the Signal Theory and Communications Doctorate program
Year	2008

Master Thesis

Title	*Espectroradiòmetre intel·ligent basat en dsPIC*
Description	Intelligent spectroradiometer based on dsPIC. Design and development of hardware and software for an oceanographic probe consisting on depth and hyperspectral sensors
Year	2006

Languages

Catalan	Mother Tongue
Spanish	Mother Tongue
English	Full professional proficiency
Italian	Conversationally fluent

Most relevant publications

S. Pons, J. Aguzzi, and J. Piera. Automated video-image analysis of the behaviour of deep-water lobsters (Nephrops norvegicus). *Instrumentation Viewpoint*, 8(77):9, 2009.

S. Pons, J. Aguzzi, and J. Piera. Video-image processing applied to the analysis of the behaviour of deep-water lobsters (Nephrops norvegicus). In *IEEE/OEE Oceans Conference and Exhibition, Oceans'10 Sidney*, 2010.

S. Pons, I.F. Aymerich, E. Torrecilla, and J. Piera. Low cost hyperspectral device suitable for monitoring sensor networks. *Instrumentation ViewPoint*, 6:60–61, 2007.

S. Pons, I.F. Aymerich, E. Torrecilla, and J. Piera. Monolithic spectrometer for environmental monitoring applications. In *IEEE/OEE Oceans Conference and Exhibition, Oceans'07 Aberdeen*, 2007.

S. Pons, L. Ceccaroni, and J. Piera. Design of a sensor network with adaptive sampling. In *iEMSs 2008 Conference (The International Environmental Modelling and Software Society Conference)*, 2008.

S. Pons, S. Pinnock, A. Dekker, and C. Brockmann. Use of DUE CoastColour products for studying the impact of cyclones on the australian Great Barrier Reef. In *Sentinel-3 OLCI/SLSTR and MERIS/(A)ATSR workshop*, 2012.

S. Pons, E. Torrecilla, M. Vilaseca, and J. Piera. Low cost hyperspectral sensors: potential applications for characterization of multi-scale ocean processes. In *EOS Topical Meeting on "Blue" Photonics - Optics in the Sea*, 2009.