Jose M. Rivera-Rubio

Curriculum Vitae

Education

2011–Present   **Ph.D. candidate in Bioengineering**, *Imperial College London*.
Supervisor: Dr. Anil A. Bharath

2012   **International Computer Vision Summer School**, *University of Catania, Italy*.

2010–2011   **MSc Biomedical Bioengineering**, *Imperial College London*, Overall mark of 71% awarded the top mark (A) in 7/11 subjects.
Dissertation: Features for the visual biopsy of polyps
Awarded 'A' mark. The project was accomplished in collaboration with medical image processing company Medicsight and NHS expert colonoscopists.This thesis applied image processing and computer vision techniques to endoscopic images, with the purpose of improving the characterisation and classiffication of large bowel polyps in real-time during colonoscopy. I improved the clasiffication accuracy by 2-5% by adding four new features to the existing five. I also designed and implemented different approaches to narrow the margin of classiffication error by producing measurements of feature stability such as feature variability across the surface of polyps.

Supervisor: Dr. Anil A. Bharath

2003–2009   **MEng Telecommunications Engineering**, *University of Seville*, Spain, 1st class. Specialised in Signal Processing and Radiocommunications.
Dissertation: IP Multimedia Subsystem (IMS), the network convergence enabler
Awarded with 1st class with honours (10/10) in July 2009. Developed and tested IMS service deployment. Conducted a study of IMS future viability. Project accomplished whilst working within the Minerva Project. Built foundations for three scientific articles.

Supervisor: Dr. Alejandro Carballar *Examiners:* Dr. Antonio Estepa, Dr. Rafael Bachiller

2009   **Mobile Communications Expert Course — Technologies and Mobile Applications: GPRS/UMTS**, University of Seville and Vodafone Spain Foundation, Researched on IP Multimedia Subsystem. Developed and simulated Java code for IMS service deployment on Ericsson SDS simulator.

1999–2003   **Secondary studies and Spanish Bachillerato**, IES Albero College, Physics, Chemistry, Maths, Biology, plus History, Spanish, English, French and Graphic design at the A2 equivalent level. Grade: 9.2/10.

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Research Positions

October 2011–Present
PhD student, *Imperial College London*, Dr. Anil A. Bharath.
I am currently designing core algorithms for visual navigation and sensor data fusion. I have also built and benchmarked a house-hold products dataset (the SHORT-30 dataset). SHORT-30 contains more than 100,000 images capturing usage particularities of blind and partially sighted people. Another ongoing project is based on the integration of smartphone sensory information to provide indoor localisation relying on crowdsourced paths.

October 2008–February 2010
Research Assistant, *The Minerva Project: Vodafone Spain, regional Government and University of Seville R&D project*, Dr. Alejandro Carballar.
This initiative funded my final year project. I researched on the IMS protocols and worked on R&D project monitoring and management. I was able to work in a multidisciplinary environment, studying the applications of my main research topic in other areas of interest such as Bioengineering or Social Services.

Publications

Refereed conference papers

J. Rivera-Rubio, S. Idrees, I. Alexiou, L. Hadjilucas, and A. A. Bharath, "Mobile Visual Assistive Apps : Benchmarks of Vision Algorithm Performance," in *Lecture Notes in Computer Science (in Press)*, no. 2013, Springer-Verlag, 2013.

J. Rivera-Rubio, A. Madera, and A. Carballar, "Hacia el Todo-IP en movilidad," *BIT*, no. 179, pp. 59–62, 2010.

J. Rivera-Rubio, A. Madera, and A. Carballar, "Incógnitas de IMS y claves para su lanzamiento," in *Telecom I+D*, (Madrid), 2009.

A. Madera, **J. Rivera-Rubio**, and A. Carballar, "DVB-H, realidad o ficción," in *Telecom I+D*, (Madrid), 2009.

Other Publications

J. Rivera-Rubio (translator), *The peculiar memories of Thomas Penman. By Bruce Robinson*. Barcelona: Cabaret Voltaire, 1 ed., 2010.

J. Rivera-Rubio, A. Madera, and A. Carballar, "Hacia el Todo-IP en movilidad," *BIT*, no. 179, pp. 59–62, 2010.

Teaching Experience

Teaching assistant – study groups

Autumn 2011–2012
Signals and Systems, *BE2-HSAS*.
Students learn how to approach and solve signal processing problems. I led 3 study groups of 20 students each. Prepared and presented the background and material for each problem, encouraged the students to solve them and choose the best approach. I helped maintain student interest by providing a detailed step by step explanation of the problems.

Teaching assistant – lab demonstrator

Spring 2013 **Image Processing**, *BE3-HIPR*.

Autumn 2012 **Statistics and Data Analysis**, *BE9-MSTDA*.

Autumn 2011–2012	**Signals and Systems**, *BE2-HSAS*.
Autumn 2011	**Programming II**, *BE2-HPROG2*.

Grants and Awards

2013	**V&L Net Pump-Priming 2013-1 Grant**, *EPSRC Network on Vision and Language (V&L Net)*, Riccardo Secoli and **Jose Rivera-Rubio**. Funding for the BELVIS project to construct and release a database of "visual paths" containing images and videos of different journeys together with a voice record of the position to establish the ground truth. The release of this dataset will motivate research in the areas of mobile and visual localisation, voice-enabled ground truth and natural language processing of navigational information
2013	**Highly Commended Prize in the Poster Competition**, *Imperial College Graduate School Summer Research Symposium*, Awards given to the best 10 posters among more than 100.
2011–2014	**EPSRC PhD studentship**, *Imperial College London Department of Bioengineering*, Awarded one of three studentships among more than 120 candidates.
2011	**2011 International Grants**, *'La Caixa' Foundation: Welfare projects* , Selected for an interview on the 25th May 2011 to obtain a studentship for a PhD in Bioengineering Research at Imperial College. Shortlisted within the best 70 candidates among 19000+ applicants to compete for 25 grants. Could not attend the interview due to Imperial College exam clash.
2007–2008	**SICUE/SENECA Scholarship**, *Spanish Education Ministry*, Scholarship and bursary to spend my MEng 5th and final year in Carlos III University of Madrid, Spanish top university in Computing.
2003	**Best performance award**, *Andalousian Regional Government*, Awarded with a best performance prize at college level and granted funding of first year tuition fees at University.

Computer skills

Advanced	MATLAB, Linux (server and desktop), LaTeX, Computer Hardware and Support, OpenOffice, Microsoft Windows
Intermediate	C,C++, OpenCV, python, html,
Basic	java, Inkscape, Adobe Creative Suite

Languages

Spanish	**Mother tongue**	
English	**Full professional proficiency**	*TOEFL iBT 114/120*
French	**Intermediate proficiency**	*Completed 4 years at the Official School of Languages*
Chinese (Mandarin)	**Elementary proficiency**	*Completed 2 years of the language course at University (9/10)*
German	**Elementary proficiency**	*Completed 1 year of the language course at University (7/10)*