Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Sandro Vega Pons**
Telephone(s)	Mobile: (+39)3427172901
E-mail	vega@fbk.eu, sv.pons@gmail.com
Nationality	Cuban
Date of birth	November 23rd, 1983
Gender	Male

Employment / Occupational field

Post-Doc researcher/ Machine Learning and Neuroinformatics

Work experience

Dates	October, 2012 – present
Occupation or position held	Postdoctoral researcher
Main activities and responsibilities	Work in the research project: Brain decoding using Clustering Ensemble and Graph Representation. The general objective of this project is the development of new brain decoding methods that use the spatial relation information in fRMI signals at all levels of the processing, leading to an improvement of the results in the state-of-the-art. The main expected results are: - New feature selection method for brain decoding based on clustering ensemble algorithms. - New approach for brain decoding based on graph representation of the fMRI data and graph kernels. - Computational software tool that allows experimental evaluation of the proposed algorithms
Name and address of employer	Neuroinformatic Laboratory, Fondazione Bruno Kessler (FBK), Via Sommarive, 18 - 38123 Povo (TN), Italy. Phone +39 0461 314 393.
Type of business or sector	Research on Machine Learning and Neuroinformatics. Computational tools development.
Dates	September, 2007 – June, 2012
Occupation or position held	Junior Researcher
Main activities and responsibilities	Worked in two research projects: - Combination of Unsupervised Classifiers: Theoretical results and algorithms for clustering ensembles and segmentation ensembles. Development of hierarchical clustering algorithms and kernel functions for structured data, such as partitions and graphs. Writing of scientific papers. PhD thesis. From February 2011 to May 2012, co-supervisor of three PhD thesis. - Cuban Licence Plate Recognition System: Development and programming of algorithms for image segmentation and OCR for car plate images. Supervisor of one Bachelor thesis. Reserve of the head of the Data Mining department.
Name and address of employer	Advanced Technologies Application Center (CENATAV by its Spanish abbreviation), 7th Avenue #21812 % 218 and 222 Siboney Neighborhood, Playa, Havana City, Cuba

Type of business or sector	Research on Computer Science (Machine Learning and Data Mining). Computational tools development.

Education and training

Dates	December 2007, May 2011
Title of qualification awarded	Doctor in Mathematical Sciences (PhD)
Principal subjects/occupational skills covered	Thesis title: 'Combination of results of unsupervised classifiers'. Development of clustering ensemble algorithms based on kernel functions. Definition of new kernel functions between partitions. New approach for the selection of the representative level in a hierarchy of partitions. From May 2010-August 2010. Visiting PhD student in the Computer Vision and Pattern Recognition group of the Muenster University, Germany (Prof. Dr. Xiaoyi Jiang). Formalization of the segmentation ensemble problem and development of segmentation ensemble algorithms.
Name and type of organisation providing education and training	University of Havana, Cuba. Given by the National Committee of Scientific Degrees of Cuba.
Level in national or international classification	ISCED 8
Dates	September 2002 - July 2007
Title of qualification awarded	Licentiate in Computer Sciences (First-level university degree after 5 years, equivalent to Master degree)
Principal subjects/occupational skills covered	Computer programming, compilers, data structures and algorithms, artificial intelligence, operating systems, mathematical analysis, algebra, discrete mathematics, numerical mathematics, differential equations, English.
Name and type of organisation providing education and training	University of Havana, Cuba.
Level in national or international classification	ISCED 7

Personal skills and competences

Mother tongue(s)	**Spanish**

Other language(s)

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
Italian	A2	Basic user	A2	Basic user	A2	Basic user	A2	Basic user	A2	Basic user
French	A2	Basic user	A2	Basic user	A2	Basic user	A2	Basic user	A2	Basic user

(*) Common European Framework of Reference for Languages

Social skills and competences	- Team wok: I have worked in different kind of teams; including teams for school projects (at all levels) and teams for work projects. In the last case, some of them have been constituted by multidisciplinary groups. - Intercultural skills: During my stay in Germany I have worked with researchers from many countries. International conferences have also been occasions for exchanging experiences with researchers from different countries.
Organisational skills and competences	- Some experience supervising Master students and PhD students. - I have substituted head of projects and the head of my department for several short spaces of time, developing leading and organizational skills. - Organization of sports activities at work and university.
Computer skills and competences	Strong programming skills in: C#, Matlab and Python. General knowledge of other languages like C, C++ and Java.

Additional information

Publications

Journal articles

1- **Vega-Pons, S**. and Ruiz-Shulcloper, J. (2011). A survey of clustering ensemble algorithms, International Journal of Pattern Recognition and Artificial Intelligence, 25 (3), 337 - 372.
2- **Vega-Pons, S**., Ruiz-Shulcloper, J., and Guerra, A. (2011). Weighted association based methods for the combination of heterogeneous partitions, Pattern Recognition Letters, 32, 2163 – 2170.
3- **Vega-Pons, S**., Correa-Morris, J., and Ruiz-Shulcloper, J. (2010). Weighted partition consensus via kernels, Pattern Recognition, 43(8), 2712 - 2724.

International conference papers

4- **Vega-Pons, S**., Avesani, P. (2013). Brain decoding via graph kernels, 2013 International Workshop on Pattern Recognition in Neuroimaging (PRNI), pp. 136-139.
5- **Vega-Pons, S**., Avesani, P. (2013). Clustering ensemble on reduced search spaces. Proceeding of the European Conference on Machine Learning and Principles and Practices of Knowledge Discovery in Databases, COPEM Workshop.
6- Duval-Poo, M., Sosa-Garcia, J., Guerra, A., **Vega-Pons, S**., Ruiz-Shulcloper, J.: A new classifier combination scheme using clustering ensemble. In CIARP 2012, 7441 of LNCS, 154 - 161
7- **Vega-Pons, S**., Jiang, X., and Ruiz-Shulcloper, J. (2011). Segmentation ensemble via kernels, in First Asian Conference on Pattern Recognition (ACPR), pp. 686 - 690.
8- Franek, L., Abdala, D. D., **Vega-Pons, S**., and Jiang, X. (2010). Image segmentation fusion using general ensemble clustering methods. In Asian Conference on Computer Vision ACCV2010, 6495 of LNCS, 373-384.
9- **Vega-Pons, S**. and Ruiz-Shulcloper, J. (2010). Partition selection approach for hierarchical clustering based on clustering ensemble. In CIARP 2010 (Bloch, I. and Cesar, R., eds.), 6419 of LNCS, 525 – 532
10- Duval, M., **Vega-Pons, S**., Garea, E. (2010). Experimental Comparison of Orthogonal Moments as Feature Extraction Methods for Character Recognition. In CIARP 2010 (Bloch, I. and Cesar, R., eds.), 6419 of LNCS, 394–401.
11- **Vega-Pons, S**. and Ruiz-Shulcloper, J. (2009). Clustering ensemble method for heterogeneous partitions. In CIARP 2009 (Bayro-Corrochano, E. and Eklundh, J.-O., eds.), 5856 of LNCS, 481 - 488.
12- **Vega-Pons, S.**, Gil, J.L., Vera, O.L. (2008): Active Contour Algorithm for Texture Segmentation using a Texture Feature Set. In proceedings of the 19th International Conference on Pattern Recognition (ICPR'08), Tampa, Florida. ISBN 978-1-4244-2175-6.
13- **Vega-Pons, S**., Correa-Morris, J., and Ruiz-Shulcloper, J. (2008). Weighted cluster ensemble using a kernel consensus function. In CIARP 2008 (Kropatch, W. and Ruiz-Shulcloper, J., eds.), 5197 of LNCS, 195 -202.
14- Garea, E., Gil, J.L., **Vega-Pons, S**. (2007): A Method for Segmentation of Local Illumination Variations and Photometric Normalization in Face Images. In CIARP 2007 (L. Rueda, D. Mery, and J. Kittler, eds.), 4756 of LNCS, 281–290.

Other Publications

15- **Vega-Pons, S**., Ruiz-Shulcloper, J. (2010): Cluster ensembles: A state of the art. Technical Report RT_29. Blue Series, Advanced Technologies Application Center, Cuba. (In Spanish).
16- Garea, E., **Vega-Pons, S**., Vera, F., Gil, J.L. (2009): Detection and Identification Methods for Cuban Car Plates, Proceedings of UCIENCIA 2010, ISBN 978-959-286-011-7 (In Spanish).
17- **Vega-Pons, S**., Gil, J.L. (2009): Texture image segmentation. Proceedings of Informática 2009. ISBN 978-959-286-010-0 (In Spanish).
18- **Vega-Pons, S**. Gil, J.L., Vera, O.L. (2008): Bi-Class Unsupervised Texture Image Segmentation Method Using Active Contour. Published in Proceedings of International FIE 2008, ISBN 978-84-00-08680-0.

Affiliation

- Cuban Society of Mathematics and Computation (SCMC, by its Spanish abbreviation), since 2007.
- Cuban Association for Pattern Recognition (ACRP, by its Spanish abbreviation), since 2007.

Grants

- RESTATE Programme Marie Curie Grant, FP7 COFOUND Marie Curie Action – Grant agreement no. 267224