



## ❖ DATOS PERSONALES

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## ❖ FORMACIÓN ACADÉMICA

Doctorado en Inteligencia Artificial

## ❖ POSICIÓN ACTUAL

Universidad Tecnológica de la Mixteca,

Instituto de Computación

Grupo de Investigación: Reconocimiento de Patrones

## ❖ LÍNEAS DE INVESTIGACIÓN

Aprendizaje automático: aprendizaje semi-supervisado, agrupamiento, reducción de la dimensionalidad; procesamiento digital de imágenes; planificación de trayectorias.

## ❖ SIMPOSIA, CONGRESOS, FOROS Y CONFERENCIAS

- The 3rd International Conference on Agents and Artificial Intelligence (ICAART 2011). Rome, Italy.
- The 11th Mexican International Conference in Computer Science (ENC 2011). Toluca, Mexico.
- The 10th International Conference on Intelligent Data Engineering and Automated Learning (IDEAL 2009). Burgos, Spain.
- The 4th International Conference on Hybrid Artificial Intelligence Systems (HAIS 2009). Salamanca, Spain.



- The 9th International Conference on Intelligent Data Engineering and Automated Learning (IDEAL 2008). Daejeon, Korea.
- The 11th Ibero-American Conference on Artificial Intelligence (IBERAMIA 2008). Lisbon, Portugal.
- The 3rd International Workshop on Hybrid Artificial Intelligence Systems (HAIS 2008). Burgos, Spain.
- The International Conference on Bio-inspired Systems and Signal Processing, BIOSIGNALS 2008. Funchal, Madeira, Portugal.
- The 6th Mexican Conference on Artificial Intelligence (MICA I 2007). Aguascalientes, Mexico.
- The 12th Conference of the Spanish Association for Artificial Intelligence, CAEPIA+TTIA 2007. Salamanca, Spain.
- II Simposio de Inteligencia Computacional (IEEE SICO 2007). Zaragoza, España.
- IV Taller Nacional Español de Minería de Datos y Aprendizaje (TAMIDA 2007). Zaragoza, España.
- The 3rd European Starting AI Researcher Symposium (STAIRS'06). Riva del Garda, Italy.
- Learning'06 International Conference. 'Between Learning and Data Mining' special session, Vilanova i la Geltrú, Spain.

## ❖ DISTINCIONES ACADÉMICAS

- Miembro del Sistema Nacional de Investigadores (SNI). Nivel: Candidato.
- Miembro del Comité de Programa (Program Committee) de diferentes conferencias internacionales como: IWANN 2011, ENC 2011, IDEAL 2010, IWANN 2009, ESANN 2009.
- Revisor de artículos en la revista Knowledge Based Systems Journal y en diferentes conferencias internacionales.

## ❖ PUBLICACIONES

- Cruz-Barbosa, R., Vellido, A. *Semi-Supervised Analysis of Human Brain Tumours from Partially Labeled MRS Information, using Manifold Learning Models. International Journal of Neural Systems*, 21(1), 17-29. 2011.
- Rodríguez-López, V., Cruz-Barbosa, R. *Leukocytes Classification using Bayesian Networks*. In Proceedings of the 3rd International Conference on Agents and Artificial Intelligence (ICAART 2011), Volume 1, 681-684. Rome, Italy. 2011.
- Cruz-Barbosa, R., Vellido, A. *Semi-Supervised geodesic Generative Topographic Mapping. Pattern Recognition Letters*, 31(3), 202-209. 2010.
- Cruz-Barbosa, R., Vellido, A. *Semi-Supervised Outcome Prediction for a Type of Human Brain Tumour using Partially Labeled MRS Information*. In Proceedings of the 10th International Conference on Intelligent Data Engineering and Automated Learning (IDEAL 2009). **LNCS 5788**, 168-175. 2009.
- Cruz-Barbosa, R., Vellido, A. *Comparative Evaluation of Semi-Supervised Geodesic GTM*. In Proceedings of the 4th International Conference on Hybrid Artificial Intelligence Systems (HAIS 2009). **LNAI 5572**, 344-351. 2009
- Cruz-Barbosa, R., Vellido, A. *On the Improvement of the Mapping Trustworthiness and Continuity of a Manifold Learning Model*. In Proceedings of the 9th International Conference on Intelligent Data Engineering and Automated Learning (IDEAL 2008). **LNCS 5326**, 266-273. Daejeon, Korea. 2008.
- Cruz-Barbosa, R., Vellido, A. *Geodesic Generative Topographic Mapping*. In Proceedings of the 11th Ibero-American Conference on Artificial Intelligence (IBERAMIA 2008). **LNAI 5290**, 113-122. Lisbon, Portugal. 2008
- Cruz-Barbosa, R., Vellido, A. *Unfolding the Manifold in Generative Topographic Mapping*. In Proceedings of the 3rd International Workshop on Hybrid Artificial Intelligence Systems (HAIS 2008). **LNAI 5271**, 392-399. Burgos, Spain. 2008
- Cruz-Barbosa, R., Vellido, A. *Two-Stage Clustering of a Human Brain Tumour Dataset Using Manifold Learning Models*. In Proceedings of the International Conference on Bio-inspired Systems and Signal Processing, BIOSIGNALS 2008, Funchal, Madeira, Portugal. 2008.
- Cruz-Barbosa, R., Vellido, A. *On the Influence of Class Information in the Two-Stage Clustering of a Human Brain Tumour Dataset*. In Procs. of the 6th Mexican Conference on Artificial Intelligence (MICA 2007). **LNAI 4827**, 472-482. 2007
- Cruz-Barbosa, R., Vellido, A. *On the Initialization of Two-Stage Clustering with class-GTM*. In Proceedings of the 12th Conference of the Spanish Association for Artificial Intelligence, CAEPIA+TTIA 2007. **LNAI 4788**, 50-59. 2007
- Cruz-Barbosa, R., Vellido, A. *Evaluation of a Two-Stage Clustering Procedure Using Class Information in Generative Topographic Mapping*. In I. Rojas Ruiz and H. Pomares Cintas (eds.) *Actas del II Simposio de Inteligencia Computacional (IEEE SICO 2007)*, Thomson, pp.17-24. 2007



- Cruz-Barbosa, R., Vellido, A. *Limits to the Use of Class Information in a GTM-based Two-Stage Clustering Procedure*. In F.J.Ferrer-Troyano et al. (eds.), Actas del IV Taller Nacional Español de Minería de Datos y Aprendizaje (TAMIDA 2007), Thomson, pp.303-312. 2007
- Cruz, R. and Vellido, A., *On the improvement of brain tumour data clustering using class information*, In Proceedings of the 3rd European Starting AI Researcher Symposium (STAIRS'06), Riva del Garda, Italy. 2006.
- Cruz, R. and Vellido, A., *Elements of Generative Manifold Learning for semi-supervised tasks*. Technical Report LSI-07-1-R (2007). Universitat Politècnica de Catalunya, UPC, Barcelona, Spain.