**RESUMÉ**

**JESÚS ANTONIO GONZÁLEZ BERNAL**
Ph.D. in Computer Science and Engineering
**Mexican National Researchers System, Level I**
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**RESEARCH AREAS:**
Machine Learning, Data Mining, Algorithms, Structural Data Analysis, Bioinformatics, Medical Applications.

**EDUCATION:**

2001 Ph. D. Computer Science and Engineering. The University of Texas at Arlington.
Advisor: Dr. Lawrence B. Holder

1999 M.S. Computer Science and Engineering. The University of Texas at Arlington.
Advisor: Dr. Lawrence B. Holder

1992 B.S. Computer Science and Engineering. University of the Americas (UDLAP), Puebla, Mexico.
Advisor: Dr. Pilar Gómez Gil

**EXPERIENCE:**

Sept 2001 - Present **National Inst. Astrophysics, Optics and Electronics** Tonantzintla, Puebla
(INAOE) Researcher
- Researcher on the Machine Learning and Data Mining areas.
- Professor of postgraduate courses.

Feb 2005 - Present **National Inst. Astrophysics, Optics and Electronics** Tonantzintla, Puebla
Academic Coordinator of the Regional Center for Education in Space Science and Technology for Latin-America and the Caribbean (CRECTEALC) for the Mexican Campus.
- Academic coordinator for courses and research in Remote Sensing and Geographic Information Systems.
- Professor of postgraduate courses.

Jan 2002 - Dec 2005 **University of the Americas, Puebla (UDLAP)** Cholula, Puebla
Part Time Professor
- Professor of bachelor's degree courses.

June 1998 - Aug 2001 **University of Texas at Arlington** Arlington, TX
Research Assistant for Dr. Lawrence B. Holder
- Researcher on the Machine Learning and Data Mining areas.

July 1996 - June 1997 **Serfin Financial Group** Mexico D.F., Mexico
Manager, Database Administration

- Databases design of Oracle databases for the bank servers.
- Databases administrator.
- Logical security design for Oracle databases.
- Technical support to the development group.

April 1994 - June 1996 **Serfin Financial Group** Mexico D.F., Mexico
Manager, Information Security

- Manager of the logical security group.
- Security risk analysis leader.
- Contingency plans implementation for applications of the bank.
- Logical security design for applications of the bank.

Oct. 1993- March 1994 **Digital Equipment Corporation** Chihuahua, Mexico
Team Leader, Technical Systems Group

- Technical systems group leader.
- Systems management of VAX-VMS and RISC-Ultrix machines.
- Technical support to the manufacturing plant.
- Software development and implementation for new product developments.

Sept. 1992 - Sept. 1993 **Digital Equipment Corporation** Chihuahua, Mexico
Information Systems Specialist, Application Support Center (ASC).

- Development of corporate applications in conjunction with the Massachusetts' and Puerto Rico's ASCs.
- Production databases administration.

Jan. 1993 - March 1994 **Autonomous University of Chihuahua (UACH)** Chihuahua, Mexico
Part time professor

- Professor of bachelor's degree courses.

Jan. 1992 - Aug. 1992 **University of the Americas, Puebla (UDLAP)** Puebla, Mexico
Coordinator at the Projects Engineering Department

- Applications development for the Projects Engineering department.
- System management of the Unix university servers.

**HONORS AND ACTIVITIES:**

| | |
|---|---|
| 2010 | Member of the Mexican Delegation for the Committee on the Peaceful Uses of Outer Space, 9 – 18 June 2010, conference organized by the United Nations Office of Outer Space. |
| 2009 | Member of the Mexican Delegation for the Committee on the Peaceful Uses of Outer Space, 3 – 12 June 2009, conference organized by the United Nations Office of Outer Space. |
| 2009 | Member of the National Researchers System, level I. |
| 2003 | Member of the National Researchers System, level Candidate. |
| 2001 | Ph.D. degree with GPA of 4.0 |
| 1999 | M.S. degree with GPA of 4.0 |
| 1998 | Tau Beta Pi engineering honor society. |
| 1998 | Vice-president of the Latin America Student Organization (LASO). |

1997 Fulbright scholarship for the University of Texas at Arlington.
1996 Employee of the year at Serfin Financial Group.
1992 Graduated with honors from the University of the Americas (UDLAP).

**TEACHING**

1. NATIONAL INSTITUTE FOR ASTROPHYSICS, OPTICS AND ELECTRONICS, PUEBLA, MEXICO
   - Data Mining
   - Machine Learning
   - Analysis and Design of Algorithms
   - Automata Theory and Formal Languages
   - Databases
   - Software Engineering
2. CRECTEALC, CAMPUS MEXICO
   - Remote Sensing
   - Geographic Information Systems
3. UNIVERSITY OF THE AMERICAS (UDLAP) PUEBLA, MEXICO
   - Operating Systems
   - Data Mining
4. AUTONOMOUS UNIVERSITY OF CHIHUAHUA, CHIHUAHUA, MEXICO
   - Unix Operating System

**PROFESIONAL SERVICE**

1. Editorial board for the Intelligent Data Analysis Journal, IOS Press, http://www.iospress.nl/loadtop/load.php?isbn=1088467x, since 2008
2. Section Editor (coordinator) for the "Computación y Sistemas" Journal, IPN Press, http://www.cic.ipn.mx/portalCIC/s11/, since 2009
3. Reviewer for the "Computación y Sistemas" Journal, IPN Press, since 2009
4. Program committee for several conferences:
   - ACM-CIKM – 2010 - 2011
   - CIARP, 2008 – 2010
   - MICAI, 2008 – 2011
   - FLAIRS, 2005 – 2011
   - ENC, 2009
5. Academic Coordinator of the Campus Mexico of the Regional Center for Science and Technology Education for Latin America and the Caribbean (CRECTEALC), http://www.crectealc.org/, since 2005
6. Member of the Directive Board of the Mexican Artificial Intelligence Society, http://www.smia.org.mx/, since 2007

## PARTICIPATION IN EVENTS ORGANIZATION

1. MICAI-2011, Keynote Speakers, November 26 – December 4, 2011
2. MICAI-2011, PC-Chair of the Bioinformatics and Medical Applications Track
3. MICAI-2010, Keynote Speakers and Grants Chair, November 8- 13, 2010.
   - Mexican International Conference on Artificial Intelligence.
2. MICAI-2010, PC-Chair of the Data Mining Track
4. Co-organizer of the Workshop "Space Policy in Latin-America and the Caribbean: Looking to the Future", 3-5 November, 2009.
   - Co-organized by Secure World Foundation, the campus Mexico of the Regional Centre for Space Science and Technology for Latin America and the Caribbean, and the National Institute of Astrophysics, Optics, and Electronics, and the Mexican Foreign Affairs Ministry
5. Co-organizer of the Training Course "The Use of Global Navigation Satellite Systems for Development", November 16-20, 2009
   - Co-organized by the "Benemérita Universidad Autónoma de Puebla", the United Nations, the campus Mexico of the Regional Centre for Space Science and Technology for Latin America and the Caribbean, and the National Institute of Astrophysics, Optics, and Electronics.
6. MICAI-2009, Tutorials Chair, November 9-10, 2009.
   - Mexican International Conference on Artificial Intelligence.
7. GIAPP-2009, Co-organizer.
   - Artificial Intelligence and the Protein Folding Problem (http://ppia.cs.buap.mx/)
8. MICAI-2008, Tutorials Chair.
   - Mexican International Conference on Artificial Intelligence.
9. MICAI-2008, Keynote-Speakers co-Chair.
   - Mexican International Conference on Artificial Intelligence
10. Galileo Autumn School 2008 (http://www.galileoic.org/la/?q=tr/node/291) , Co-organizer.
11. Bioinformatics Workshop. Encuentro Nacional de la Computación 2005.
12. Bioinformatics Workshop. Encuentro Nacional de la Computación 2004.
13. Machine Learning for Scientific Data Analysis Workshop at IX Ibero-American Conference on Artificial Intelligence (IBERAMIA) 2004, Co-organizer.
14. Cyber-chair at IX Ibero-American Conference on Artificial Intelligence (IBERAMIA) 2004.

## PUBLICATIONS

### JOURNAL

1. Gonzalez, Jesus A.; Olmos, Ivan; Altamirano, Leopoldo; Morales, Blanca A.; Reta, Carolina; Galindo, Martha C.; Alonso, Jose E.; Lobato, Ruben. "Leukemia Identification from Bone Marrow Cells Images using a Machine Vision and Data Mining Strategy". Accepted for Publication, Intelligent Data Analysis, Vol. 15(3), 2011.
2. Escalante, Hugo Jair; Grubinger, Michael; Hernandez, Carlos A.; Gonzalez, Jesus A.; Lopez, Aurelio; Montes, Manuel; Morales, Eduardo; Sucar, Enrique; Villaseñor, Luis. "The Segmented and Annotated IAPR TC-12 Benchmark". Accepted for publication on Computer Vision and Image Understanding, March 2009.
3. Mena, Luis and Gonzalez, Jesus A. "Symbolic One-class Learning from Imbalanced Datasets: Application in Medical Diagnosis". International Journal of Artificial Intelligence Tools, Vol. 18, No. 2, pp. 273 - 309, April 2009.

4. Mena, Luis; Gonzalez, Jesus A.; and Maestre, Gladys. “Extracting New Patterns for Cardiovascular Diseases Prognosis”, Expert Systems, 2009.

**BOOK CHAPTERS**

1. Gonzalez, Jesus A. “Geographic Information Systems and Geomatics”. To appear in Handbook of Satellite Applications, Springer Verlag, 2011.
2. Rodriguez, Gabriela; Gonzalez, Jesus A.; Altamirano, Leopoldo; Guichar, Jose. “Microcalcifications Detection Using Fisher Linear Discriminant and Breast Density”. To Appear in Advances in Experimental Medicine and Biology (AEMB), Software Tools and Algorithms for Biological Systems, Springer Verlag, 2011.
3. Reta, Carolina; Altamirano, Leopoldo; Gonzalez, Jesus A. “Leukocytes Segmentation Using Markov Random Fields”. To Appear in Advances in Experimental Medicine and Biology (AEMB), Software Tools and Algorithms for Biological Systems, Springer Verlag, 2011.
4. Ramírez-Cortes JM, Gómez-Gil P, Alarcón-Aquino V, González-Bernal J, Garcia-Pedrero A. “Neural Networks and SVM-based Classification of Leukocytes using the Morphological Pattern Spectrum”. To be published at “Soft Computing for Recognition based on Biometrics”, Castillo-Lopez, O. Ed., Springer-Verlag, 2010.
5. Holder, Lawrence B.; Cook, Diane J.; Gonzalez, Jesus A.; and Jonyer, Istvan, “Structural Pattern Recognition in Graphs”, Pattern Recognition and String Matching (D. Chen and X. Cheng, eds.), Kluwer Academic Publishers, 2002.
    a. **Citations,** July 20 2009, 15

**BOOKS EDITIONS**

1. Loreto, Rosalva. “Habitar y Vivir. Estudio Histórico Ambiental de una Ciudad Novohispana. Puebla de los Ángeles, Siglos XVII y XVIII”, Editor: Jesus A. Gonzalez. 2008.
2. Loreto, Rosalva. “Habitar y Vivir. Estudio Histórico Ambiental de una Ciudad Novohispana. Puebla de los Ángeles, Siglos XVII y XVIII”, Libro Electrónico, Editor: Jesus A. Gonzalez. 2008.
3. Lemaitre, Christian; Reyes, Carlos A.; Gonzalez, Jesus A. (Eds.), Advances in Artificial Intelligence – IBERAMIA 2004, Lecture Notes in Computer Science, Lecture Notes in Artificial Intelligence, Springer Verlag, ISBN 3-540-23806-9, Vol. 3315, 2004.

**CONFERENCE (Refereed)**

1. Hernandez-Leal, Pablo; Alma Rios-Flores, Felipe Orihuela-Espina, Santiago Avila-Rios, Gustavo Reyes-Teran, Jesus A. Gonzalez, Eduardo F. Morales, and Enrique Sucar. “Unveiling HIV Mutational Networks Associated to Pharmacological Selective Pressure: A Temporal Bayesian Approach”. To appear in the Proceedings of the AIME 2011 Workshop on Probabilistic Problem Solving in Biomedicine. Bled Eslovenia, 2011.
2. Fonseca, Rigoberto; Gómez-Gil, Pilar; Gonzalez, Jesus A; Olmos, Ivan. “Finding Patterns in Labeled Graphs Using Spectrum Feature Vectors in a SOM Network”. To appear in the Proceedings of the 2011 International Joint Conference on Neural Networks, San Jose, California, July 31 – August 5, 2011.
3. Hernandez-Leal, Pablo; Sucar, Enrique; Gonzalez, Jesus A.; Reyes, Alberto. “Learning Temporal Bayesian Networks for Power Plant Diagnosis”. To appear in the proceedings of the Twenty fourth International Conferences on Industrial Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE – 2011), Springer Verlag, 2011.
4. Romero, Oscar; Gonzalez, Jesus A; Holder, Lawrence B. “Handling of Numeric Ranges for Graph-Based Knowledge Discovery”. To appear in the Proceedings of the International Conference on Data Mining (DMIN11), 2011.

5. Hernandez-Leal, Pablo; Sucar, Enrique; Gonzalez, Jesus A. “Learning Temporal Nodes Bayesian Networks”. Proceedings of the Twenty-Fourth International Florida Artificial Intelligence Research Society Conference, 2011.
6. Romero, Oscar; Gonzalez, Jesus A.; Holder, Lawrence B. “Handling of Numeric Ranges with the Subdue System”. Proceedings of the Twenty-Fourth International Florida Artificial Intelligence Research Society Conference, 2011.
7. Morales-Cruz, Jorge; Gonzalez, Jesus A.; Reyes-Garcia Carlos; Altamirano, Leopoldo. “A Soft Computing Approach for Obtaining Transition Regions in Satellite Images”. Proceedings of the International Conference on Intelligent Computing (ICIC-2010), Lecture Notes in Computer Science 6215, Springer-Verlag, 2010
8. Rodriguez, Gabriela; Gonzalez, Jesus A.; Altamirano, Leopoldo; Guichard, Jose S.; and Diaz, Raquel. “A Supervised Method for Microcalcifications Detection Using Breast Density”. Proceedings of the 23rd FLAIRS Conference, 2010.
9. Romero, Oscar; Gonzalez, Jesus A.; Holder, Lawrence B. “Handling of Numeric Ranges for Graph-Based Knowledge Discovery”. Proceedings of the 23rd FLAIRS Conference, 2010.
10. Mejia, Yuridia; Olmos, Ivan; Gonzalez, Jesus A. “Structured Motifs Identification in DNA Sequences”. Proceedings of the 23rd FLAIRS Conference, 2010.
11. Reta, Carolina; Altamirano, Leopoldo; Gonzalez, Jesus A. “Segmentation of Bone Marrow Cell Images for Morphologic Classification of Acute Leukemia”. Proceedings of the 23rd FLAIRS Conference, 2010.
12. Perez, Gerardo; Olmos-Pineda Ivan; Gonzalez, Jesus A. “Subgraph Isomorphic Detection with Support for Continuous Labels”. Proceedings of the 23rd FLAIRS Conference, 2010.
13. Hugo Jair Escalante, Jesús A. González, Carlos Hernández, Aurelio López, Manuel Montes, Eduardo Morales, Enrique Sucar, and Luis Villaseñor. “Annotation-Based Expansion and Late Fusion of Mixed Methods for Multimedia Image Retrieval”. In Peters, C.; Deselaers, Th.; Ferro, N.; Gonzalo, J.; Jones, G.J.F.; Kurimo, M.; Mandl, Th.; Peñas, A.; Petras, V. (Eds.) Evaluating Systems for Multilingual and Multimodal Information Access, 9th Workshop of the Cross-Language Evaluation Forum, CLEF 2008, Aarhus, Denmark, September 17-19, 2008, Revised Selected Papers, LNCS 5706, pp. 669--676, Springer, 2009.
14. Perez, Gerardo; Mejia, Yuridia; Olmos-Pineda Ivan; Gonzalez, Jesus A.; Sanchez, Patricia; Vazquez, Candelario. “An Automaton for Motifs Recognition in DNA Sequences”. In Proceedings of the Mexican International Conference on Artificial Intelligence 2009, Lecture Notes in Artificial Intelligence, MICAI-2009.
15. De la Calleja, Jorge; Fuenes, Olac; Gonzalez, Jesus A.; Aceves-Perez, Rita “A Learning Method for Imbalanced Datasets”. Proceedings of the International Conference on Knowledge Discovery and Information Retrieval, KDIR-2009.
16. Gonzalez, Jesus A.; Altamirano, Leopoldo; and Robles, Juan Francisco. “Data Mining with Context Information for Satellite Image Classification”, Ambiencia, Vol.4, pp. 147 – 158, 2008.
17. Gomez Octavio; González, Jesús A.; Morales, Eduardo F. “Image Segmentation Using Automatic Seeded Region Growing and Instance-Based Learning”. Lecture Notes in Computer Science, Vol. 4756, pp. 192- 201. CIARP 2007.
    a. **Citations,** July 20 2009, 1 (Google Scholar)
12. Gómez Octavio; Morales, Eduardo F.; and González, Jesús A. “Weighted Instance-Based Learning Using Representative Intervals”. Lecture Notes in Artificial Intelligence Vol. 4827, pp. 420 – 430. MICAI 2007.
13. Galindo-Domínguez, M. Coral; Gonzalez, Jesus A.; Altamirano Robles, Leopoldo; and Olmos Pineda, Ivan.“Descriptive Characteristics Generation and Selection for Acute

Leukemia Subtype Classification from Bone Marrow Digital Images", Research on Computer Science: Advances in Artificial Intelligence, National Polytechnic Institute, México, ISNN 1870-4069, Vol. 32, pp. 460 – 470, 2007.

14. Nieves, Juan Carlos; Cortés, Ulises; Osorio, Mauricio; Olmos, Ivan; and Gonzalez, Jesus A. "c". Proceedings of the Seventh Computer Science International Conference –ENC-2006.
    a. **Citations,** July 20 2009, 7 (Google Scholar)
15. Luis Mena and Jesus A. Gonzalez. "Machine Learning for Imbalanced Datasets: Application in Medical Diagnosis". Proceedings of the Nineteenth International Florida Artificial Intelligence Research Symposium (FLAIRS) 2006 conference.
    a. **Citations,** July 20 2009, 15 (Google Scholar)
16. Ivan Olmos, Jesus A. Gonzalez, and Mauricio Osorio. "Inexact Graph Matching: A Case of Study". Proceedings of the Nineteenth International Florida Artificial Intelligence Research Symposium (FLAIRS) 2006 conference.
    a. **Citations,** July 20 2009, 1 (Google Scholar)
17. Rugeio-Ramos, Alma, Altamirano, Leopoldo, and Gonzalez , Jesus A. "Automatic Segmentation of the Cortical Region of the Brain from MR Images", Proceedings of the Fourth IASTED International Conference on Biomedical Engineering – BioMED 2006, pp. 250 – 255, February 2006.
18. Espinosa Magloria, Gonzalez, Jesus A., and Altamirano, Leopoldo. "Automatic Extraction and 3D Visualization of Coronary Arteries from Angiography Sequences", Proceedings of the Fourth IASTED International Conference on Biomedical Engineering – BioMED 2006, pp. 356 – 361, February 2006.
19. Olmos, Ivan; Gonzalez, Jesus and Osorio, Mauricio. "Mining Common Patterns on Graphs". Lecture Notes in Artificial Intelligence, Lecture Notes in Artificial Intelligence, Vol. 3801, pp. 41 – 48, Springer Verlag, ISSN 0302-9743, December 2005.
20. Olmos, Ivan; Gonzalez, Jesus A.; and Osorio, Mauricio. "Subgraph Isomorphism Detection using a Code Based Representation". Proceedings of the 18th Internacional FLAIRS Conference, pp. 474 - 479 May, 2005.
21. Romero, Oscar; Gonzalez, Jesus A.; and Loreto, Rosalva. Structural Relational Graph Based Data Mining Applied to the Multi-Functional Spaces of Properties in "Puebla of the Angels" in the XVI, XVII, and XVIII Centuries". Proceedings of the 18th Internacional FLAIRS Conference, pp. 474 - 479 May, 2005.
22. Ortega, Judith and Jesus A. Gonzalez. "S57 Electronic Nautical Chart Viewer". Third International Conference on Computing, Communications and Control Technologies CCCT 2005.
23. Flores, Beatriz A. and Gonzalez, Jesus A., "Data Mining with Decision Trees and Neural Networks for Calcification Detection in Mammograms", Lecture Notes in Artificial Intelligence, Vol. 2972, pp 232 – 241, Springer Verlag, ISSN 0302-9743, April 2004.
    a. **Citations,** July 20 2009, 1 (Google Scholar)
24. Pech, Manuel; Tchounikine, Anne; Laurini, Robert; Gonzalez, Jesus; and Sol, David, "Graph-Based Representation for Spatial Data Mining: A Proposal", CASSINI-SIGMA 2004 Conference.
25. Gonzalez, Jesus A., Beatriz Flores, and Pedro Sánchez, "Knowledge Discovery Applied to Medical Domains", e-Health: Application of Computing Science in Medicine and Health Care (EU-LAT), pp. 149 – 159, 2003.
26. Flores, Beatriz and Jesus A. Gonzalez, "Data Mining Applied to Calcification Detection in Mammograms", XVI National Conference y II Informatics and Computing International Conference of ANIEI: Computing and Informatics Advances, pp. 35 – 40, 2003.

27. Pech, Manuel; David Sol, and Jesus A. Gonzalez, “Graph-Based Knowledge Representation for GIS Data”, Proceedings of the Fourth Mexican International Conference on Computer Science (ENC), IEEE Computer Society, pp. 117 – 124, 2003.
    a. **Citations,** July 20 2009, 2 (Google Scholar)
28. Gonzalez, Jesus; Holder, Lawrence, B; and Cook, Diane J., “Experimental Comparison of Graph-Based Relational Concept Learning with Inductive Logic Programming Systems”, Lecture Notes in Artificial Intelligence, Vol. 2583, pp. 84 – 99, Springer Verlag, ISSN 0302-9743, 2003.
    a. **Citations,** July 20 2009, 6 (Google Scholar)
29. Pech, Manuel; David Sol, and Jesus A. Gonzalez, “Adaptation and Use of Spatial and Non-Spatial Data Mining”, International Workshop on Semantic Processing of Spatial Data 2002.
    a. **Citations,** July 20 2009, 5 (Google Scholar)
30. Gonzalez, Jesus; Holder, Lawrence B; and Cook, Diane J., “Graph-Based Relational Concept Learning”, Proceedings of the Nineteenth International Conference on Machine Learning, pp. 219 – 226, 2002.
    a. **Citations,** July 20 2009, 15 (Google Scholar)
31. Gonzalez, Jesus; Holder, Lawrence, B; and Cook, Diane, J., “Application of Graph-Based Concept Learning to the Predictive Toxicology Domain”, Proceedings of the ECML/PKDD Predictive Toxicology Challenge Workshop, 2001.
    a. **Citations,** July 20 2009, 35 (Google Scholar)
    b. This submission won the first place for the Male Rats Category for the PTC challenge
32. Gonzalez, Jesus A.; Holder, Lawrence, B.; and Cook, Diane, J., “Graph-Based Concept Learning”, Proceedings of the Fourteenth Annual Florida AI Research Symposium, pp. 377 – 381, 2001.
    a. **Citations,** July 20 2009, 22 (Google Scholar)
33. Gonzalez, Jesus A.; Jonyer, Istvan; Holder, Lawrence, B.; and Cook, Diane, J., "Efficient Mining of Graph Based Data", AAAI Workshop on Learning Statistical Models from Relational Data, 2000.
    a. **Citations,** July 20 2009, 7 (Google Scholar)
34. Gonzalez, Jesus A.; Holder, Lawrence, B.; and Cook, Diane, J., "Structural Knowledge Discovery Used to Analyze Earthquake Activity", Proceedings of the Thirteenth Anual Florida AI Research Symposium, pp. 86 – 90, 2000.
    a. **Citations,** July 20 2009, 5 (Google Scholar)
35. Gonzalez, Jesus A.; Holder, Lawrence, B.; and Cook, Diane, J., "Graph Based Concept Learning", Proceedings of the Seventeenth National Conference on Artificial Intelligence, 2000.
    a. **Citations,** July 20 2009, 1 (Google Scholar)
36. Chittimoori, Ravindra; Gonzalez, Jesus A.; and Holder, Lawrence B., "Structural Knowledge Discovery in Chemical and Spatio-Temporal Databases", Proceedings of the Sixteenth National Conference on Artificial Intelligence 1999.
    a. **Citations,** July 20 2009, 2 (Google Scholar)

## ADVISING

### Bachelor

1. Ketziquel Hernández Guadarrama, “A K-means Based Segmentation Algorithm” Benemérita Universidad Autónoma de Puebla.
2. Berenice Barrientos Flores, “A Region Growing Algorithm for the Segmentation of Leukemia Cells”, Benemérita Universidad Autónoma de Puebla.
3. Pablo Mota Rodríguez, “Knowledge Discovery in the Bacillus subtilis Genoma”, June 2005, Benemérita Universidad Autónoma de Puebla.
4. Cynthia Zapata Fonseca, “Marine Navigation Sensor Information Viewer Console”, December 2005, Universidad Iberoamericana, Puebla.
5. Judith Ortega Ponce, “S57 Navigation Chart Viewer”, May 2004, Benemérita Universidad Autónoma de Puebla.
6. María de Jesús Estudillo Ayala, “Machine Learning for Text Classification”, December 2002, Benemérita Universidad Autónoma de Puebla.

### Master of Science

1. Pablo Hernández Leal, Co-director, Co-director, “Temporal Nodes Bayesian Networks”, August 2011.
2. Rigoberto Fonseca Palacios, Co-director, “Graph-based Data Mining without Candidate Generation”, Expected: August 2011.
3. José Luis Hernández Domínguez, Co-director, “Finding Regulatory Sequences with Genetic Algorithms”, February 2011.
4. Dulce María García Ordaz, Co-director, “Finding Regulatory Sequences Through Clustering Algorithms”, February 2011.
5. Carolina Reta Castro, Co-director, “Leukemia Cells Segmentation with Random Markov Fields”, August 2009.
6. Gabriela Rodríguez Ruíz, Co-director, “Micro-calcifications Identification in Mammograms with Fisher Linear Discriminants”, August 2009.
7. Margarita Rosete Montero, Co-director, “Ant Colony Optimization Methods Applied to the Hidrophobic-Polar Model of Protein Folding”, February 11, 2009, Instituto Nacional de Astrofísica, Óptica y Electrónica.
8. Atlántida Sánchez Vivar, Co-director, “Sinthetic Instance Generation for Imbalanced Classes”, October 2008, Instituto Nacional de Astrofísica, Óptica y Electrónica.
9. Martha Coral Galindo Domínguez, “Leukemia Identification from a Combination of PCA, Geometric, and Texture Attributes from Digital Images”, August 2007, Instituto Nacional de Astrofísica, Óptica y Electrónica.
10. Octavio Gómez Ramos --- Co-director, “A Machine Learning Growing Region Segmentation Algorithm for Satellite Images”, August 2007, Instituto Nacional de Astrofísica, Óptica y Electrónica
11. Juan Francisco Robles Camacho, “Satellite Image Classification using a Machina Learning Method”, February 2007, Instituto Nacional de Astrofísica, Óptica y Electrónica.
12. Blanca Aurora Morales González, “Leukemia Identification from Blood Images”, February 2007, Instituto Nacional de Astrofísica, Óptica y Electrónica.
13. Alma Rosa Rugerio Ramos --- Co-director, “Automatic Brain Structures Segmentation from Magnetic Resonance Images”, February 2006, Instituto Nacional de Astrofísica, Óptica y Electrónica.
14. Magloria E. Espinosa Sandoval --- Co-director, “Automatic Extraction and 3D Reconstruction of Coronary Arteries from a Sequence of Angiographies”, February 2006, Instituto Nacional de Astrofísica, Óptica y Electrónica.

15. Odilia Vázquez Morales --- Co-Director, “Application of a Data Mining Methodology to Provide Information for the Control of Broken Rice: Rice Whitening and Polishing Process”, February 2006, Instituto Tecnológico de Veracruz.
16. Oscar Edgardo Romero Arredondo, “Graph-based Data Mining Applied to the Multi-functional análisis of the Spaces of Properties in Puebla of the Angels in the XVI, XVII, and XVIII Centuries”, January 2006, Facultad de Física e Inteligencia Artificial, Universidad Veracruzana.
17. Eric Rodríguez Valencia, “Machine Learning Algorithm Selection based on Domain Features”, June 2005, Instituto Nacional de Astrofísica, Óptica y Electrónica.
18. Beatriz Alejandra Flores Rojas, “Data Mining Applied to Calcification Detection in Mammograms”, February 2004, Instituto Nacional de Astrofísica, Óptica y Electrónica.
19. Miguel Angel Reyes, “System for Defect Detection in Soda Bottles”, February 2004, Instituto Nacional de Astrofísica, Óptica y Electrónica.
20. Manuel Alfredo Pech Palacio --- Co-director, “Adaptation and Use of Spatial and Non-spatial Data Mining”, May 2002, Universidad de las Americas, Puebla.

**Doctoral**

1. Marisol Flores, ---Co-director, “Data Mining with a Matrix Representation”, Expected: December 2013, Instituto Nacional de Astrofísica, Óptica y Electrónica.
2. Jorge Morales Cruz, ---Co-director, “Satellite Image Classification for Regions with Impure Pixels”, Expected: December 2011”, Instituto Nacional de Astrofísica, Óptica y Electrónica.
3. Oscar Edgardo Romero Arredondo, ---Co-director, “A Graph-based Data Mining Algorithm to Deal with Numerical Ranges”. June 2011, Instituto Nacional de Astrofísica, Óptica y Electrónica.
4. Luis Mena Camaré, “Machine Learning from non-balanced Datasets and its Application to Medical Diagnosis and Prognosis”, October 2008, Instituto Nacional de Astrofísica, Óptica y Electrónica.
5. Jorge de la Calleja Mora, ---Co-director, “Machine Learning from Imbalanced Data Sets with Application in Classification of Astronomical Objects”, March 2007, Instituto Nacional de Astrofísica, Óptica y Electrónica.
6. Iván Olmos Pineda, --- Co-director, “Common Subgraph Search based on Vertex-Edge-Vertex Codes and a Breadth-Depth Search”, August 2006, Instituto Nacional de Astrofísica, Óptica y Electrónica.
7. Manuel Alfredo Pech Palacio --- Co-director, “Spatial Data Modeling and Mining using a Graph-based Representation”, December 2005, Universidad de las Américas, Puebla.

**INVITED TALKS**

1. Challenges in Artificial Intelligence in the coming 20 years, "Encuentro Internacional de Computación" ENC-2006, 18 - 22 de September, 2006.
2. Acute Leukemia Identification through Computer Techniques, Instituto Mexicano del Seguro Social, Delegación Puebla (IMSS), August 18, 2006.
3. Digital Image Processing for Clinical Diagnosis and Laboratory Support. Clinical Pathology Seminar of the Puebla's Clinical Pathology College A. C., February 28, 2006.
4. Graph-based Data Mining Applied to Biological Domains. Seminar Frontiers in Physics. Centro de Ciencias Físicas de la Universidad Nacional Autónoma de México. January 16, 2006.
5. Low Complexity Sequence Identification through the use of Algorithms for GENOME Graph-based Representations. Sixth National Congress of Molecular and Cellular Biology of Fungus. October 23 – 26, 2005.
6. Data Mining Applications. Instituto Tecnológico de Tehuacan. May 22, 2003.
7. Databases Applied to Science. Instituto Tecnológico Superior de Ciudad Serdán. April 2, 2003.
8. Cancer Detection from Digital Images. Digital Images Conferences. Benemérita Universidad Autónoma de Puebla, Computer Science. November 25, 2002.