

# José M. Saavedra R.

☎ +56-9-57210230

✉ jose.saavedra@orand.cl



---

## Personal Information

**Name:** José Manuel Saavedra Rondo

**Phone:** +56-9-57210230

**E-mail:** jose.saavedra@orand.cl

**Nationality:** Peruvian

**DBLP:** [http://dblp.uni-trier.de/pers/hd/s/Saavedra:Jose\\_M=](http://dblp.uni-trier.de/pers/hd/s/Saavedra:Jose_M=)

**GoogleScholar:** <https://scholar.google.cl/citations?user=en5q1XMAAAAAJ&hl=ess>

---

## Education

2013 **PhD in Computer Science**, *University of Chile*, Santiago, Chile.

2006 **MSc. in Computer Science**, *National University of Trujillo*, Trujillo, Peru.

2001 **Br. in Computer Science**, *National University of Trujillo*, Trujillo, Peru.

2001 **Informatic Engineer**, *National University of Trujillo*, Trujillo, Peru.

---

## Academic Stays

2010 **TU Darmstadt Computer Science Department**, *Darmstadt, Germany*, Prof. Tobias Schreck, From Sep 18th to Oct 23rd.

---

## PhD Thesis

Title *Image Descriptions for Sketch-based Image Retrieval*

Advisor Prof. Benjamin Bustos

---

## Master's Thesis

Title *Improvement of the Feature Extractor for Automatic Fingerprint Recognition*

Advisor Prof. Nelson Aragonés

---

## Undergraduate Thesis

Title *Alternative Methods for Automatic Image Contrast Improvement*

Advisor Prof. Nelson Aragonés

---

## Areas of Interest

Computer Vision, Pattern Recognition, Image Processing: [Content based Image Retrieval, High and low-level Image Representations, Object Detection and Recognition, Sparse Coding, Deep-Learning]

---

## Academic and Professional Experience

- 2013-cur **Researcher**, *ORAND S.A.*, Santiago–Chile.  
Computer Vision
- 2014-cur **Adjoint Professor**, *Pontifical Catholic University of Chile*, Santiago–Chile.  
Pattern Recognition
- 2013-cur **Lecturer (part-time)**, *University of Chile*, Santiago–Chile.  
Image Processing and Analysis, Pattern Recognition
- 2008–2012 **Teaching Assistant**, *University of Chile*, Santiago–Chile.  
Computer Science Fundamentals, Algorithms and Data Structures.
- 2004–2007 **Lecturer (part-time)**, *Cesar Vallejo University*, Trujillo–Peru.  
Areas: Data Structures, Artificial Intelligence.
- 2001–2010 **Professor**, *National University of Trujillo*, Trujillo–Peru.  
Areas: Data Structures, Artificial Intelligence, Computer Vision.

---

## Academic Awards and Distintions

- 2015 **Best Demo Award**, International Conference on Computer Vision 2015.
- 2013 **3rd Best Handwritten Digit Recognition Method**, ICDAR-2013 Competition on Handwritten Digit Recognition (HDRC 2013).
- 2013 **PAI Financial Support**, CONICYT, Chile.
- 2010 **Financial Support for Doctoral Thesis**, CONICYT, Chile.
- 2010 **Short Academic Stay Financial Support**, University of Chile.
- 2008 **PhD scholarship**, CONICYT, Chile.
- 2006 **Best Student Award**, Master program studies.
- 2001 **5th Best Thesis**, Undergraduate thesis contest at National University of Trujillo, Peru.
- 2000 **Best Student Award**, Undergraduate studies.
- 1995 **3rd Best Student**, High school studies.

---

## ISI Publications

- 2015 **Jose M. Saavedra**. *RST-SHELO: Sketch-based image retrieval using sketch tokens and square root normalization*. Accepted for publication by Multimedia Tools and Applications, Springer
- 2014 Violeta Chang, **Jose M. Saavedra**, Victor Castañeda, Luis Sarabia, Nancy Hitschfeld, Steffen Härtel. *Gold-standard and improved framework for sperm head segmentation*. Journal of Computer Methods and Programs in Biomedicine CMPB, 2014. DOI 10.1016/j.cmpb.2014.06.018

- 2013 Bo Li , Yijuan Lu, Afzal Godil, Tobias Schreck, Benjamin Bustos, Alfredo Ferreira, Takahiko Furuya, Manuel J. Fonseca, Henry Johan, Takahiro Matsuda, Ryutarou Ohbuchi, Pedro B. Pascoal, **Jose M. Saavedra**. *A comparison of methods for sketch-based 3D shape retrieval*. Accepted to be published in Computer Vision and Image Understanding (CVIU), September, 2013. DOI 10.1016/j.cviu.2013.11.008
- 2013 **Jose M. Saavedra**, Benjamin Bustos. *Sketch-based Image Retrieval Using Keyshapes*. Multimedia Tools and Applications, Springer 2013. DOI 10.1007/s11042-013-1689-0.

## Peer-Review Publications (International Conferences)

- 2015 Juan Manuel Barrios, **Jose M. Saavedra**. *Score Propagation based on Similarity Shot Graph for Improving Visual Object Retrieval*. To appear in 3rd International Workshop on Speech, Language and Audio in Multimedia, ACM Multimedia, Brisbane, Australia, 2015.
- 2015 **Jose M. Saavedra**, Juan Manuel Barrios. Sketch based Image Retrieval using Learned KeyShapes (LKS) . In the proceedings of the 26th British Machine Vision Conference (BMVC), Swansea, UK, 2015
- 2014 **Jose M. Saavedra**. *Handwritten Digit Recognition based on Pooling SVM-Classifiers using Orientation and Concavity based Features*. In the proceeding of the Iberoamerican Conference on Pattern Recognition, CIARP, 2014
- 2014 **Jose M. Saavedra**. *Sketch Based Image Retrieval Using a Soft Computation of the Histogram of Edge Local Orientations (S-HELO)*. In proceedings of the International Conference on Image Processing ICIP, Paris, 2014
- 2014 Markus Diem, Stefan Fiel, Florian Kleber, Robert Sablatnig, **Jose M. Saavedra**, David Contreras, Juan Manuel Barrios, Luiz S. Oliveira. *ICFHR 2014 Competition on Handwritten Digit String Recognition in Challenging Datasets (HDSRC 2014)*. To appear in the International Conference on Frontiers in Handwriting Recognition ICFHR'14, Greece, 2014
- 2014 Juan Manuel Barrios, **Jose M. Saavedra**, Felipe Ramirez, David Contreras. *ORAND Team: Instance Search and Multimedia Event Detection Using k-NN Searches*. TRECVID, 2013.
- 2013 Bo Li, Yijuan Lu, Afzal Godil, Tobias Schreck, Masaki Aono, Henry Johan, **Jose M. Saavedra** , Shoki Tashiro. *SHREC'13 Track: Large Scale Sketch-Based 3D Shape Retrieval*. Proceedings of Eurographics Workshop on 3D Object Retrieval 2013. Girona-Spain
- 2013 **Jose M. Saavedra**, Benjamin Bustos, Violeta Chang. *An Accurate Hand Segmentation Approach using a Structure based Shape Localization Technique*. Proceedings of International Conference on Computer Vision Theory and Applications (VISAPP, 2013). Barcelona-Spain.
- 2012 B. Li, A. Godil, T. Schreck, M. Alexa, T. Boubekeur, B. Bustos, J. Chen, M. Eitz, T. Furuya, K. Hildebrand, S. Huang, H. Johan, A. Kuijper, R. Ohbuchi, R. Richter, **J. M. Saavedra**, M. Sherer, T. Yanagimachi, G. J. Yoon, S. M. Yoon. *SHREC'12 Track: Sketch-Based 3D Shape Retrieval*. Proceedings of Eurographics Workshop on 3D Object Retrieval 2012. Cagliari-Italy
- 2012 **J. M. Saavedra**, B. Bustos, T. Shreck, S. Yoon, M. Sherer. *Sketch-based 3D Model Retrieval using Keyshapes for Global and Local Representation*. Proceedings of Eurographics Workshop on 3D Object Retrieval 2012. Cagliari-Italy

- 2011 **Jose M. Saavedra**, Benjamin Bustos , Maximilian Scherer, Tobias Schreck. *STELA: Sketch-Based 3D Model Retrieval using a Structure-Based Local Approach*. Proceedings of the ACM International Conference on Multimedia Retrieval 2011 , Trento-Italy.
- 2010 **Jose M. Saavedra**, Benjamin Bustos *An Improved Histogram of Edge Local Orientations for Sketch-Based Image Retrieval*, In Michael Goesele, Stefan Roth, Arjan Kuijper, Bernt Schiele, Konrad Schindler (ed.), Proceedings of 32nd Annual Symposium of the German Association for Pattern Recognition (DAGM), pp. 432-441, Sep 2010. Darmstadt, Germany. Springer-Verlag, Berlin/Heidelberg, Germany. Lecture Notes in Computer Science vol. 6376. ISBN 978-3-642-15985-5.

---

## International Doctoral Consortiums

- 2010 *Multi-Object Sketch-based Image Retrieval*, 23rd IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2010), San Francisco–USA.

---

## International Reviewer

Journal of Multimedia Tools and Applications (Springer)  
 Journal of Computer & Graphics (Elsevier)  
 IEEE Transactions on Circuits and Systems for Video Technology  
 ACM Transactions on Multimedia Computing, Communications and Application  
 Multidimensional Systems & Signal Processing (MULT)

---

## Invited Talks

- 2015 *Sketch-based Image Retrieval*, Congreso Nacional de Ingeniería de Sistemas y Computación (CONEISC), Arequipa–Peru.
- 2012 *Computer Vision in the industry*, Computer Science Week (SECICOMP) , Trujillo–Peru.
- 2010 *Sketch-based Image Retrieval*, 1st Academic & Industrial Computing Meeting (EAEC), Trujillo–Peru.
- 2009 *Handwritten Character Automatic Recognition*, 1st Symposium of Artificial Intelligence, Trujillo–Peru.
- 2008 *SIFT Descriptor*, 3rd Computer Science Week (SECICOMP), Trujillo–Peru.
- 2006 *Fingerprint Global Classification using Kohonen Maps*, 1st Computer Science Week (SECICOMP) , Trujillo–Peru.
- 2005 *Fingerprint Identification and Biometrics*, Specialized Course on Cybernetic Criminalistics, Hans Gross Institute, Trujillo–Peru.
- 2005 *Neural Networks applied to Biometrics*, 3rd System Engineering International Conference, Trujillo–Peru.
- 2004 *Face Detection using Multilayer Perceptron*, 5th Italo Latin American Conference on Applied & Industrial Mathematics (ITLA 2004), Trujillo–Peru.
- 2004 *Face Detection using Multilayer Perceptron*, EXPOSYSTEM 2004, Trujillo–Peru
- 2004 *Neural Networks*, Cesar Vallejo University, Piura–Peru
- 2004 *Tridimensional Visualization Fundamentals*, 2nd Computing Symposium, Updating on Computer Science, Trujillo–Peru.
- 2003 *Geometric Projections and their Application for 3D View Generation*, 21st Colloquium of the Peruvian Mathematic Society, Arequipa–Peru.

- 2001 *Alternative Methods for Automatic Image Contrast Enhancement*, 2nd National Fair of Science and Technology (CONCYTEC) , Lima–Peru.
- 2001 *Computer Science and System Engineering, Professional Profile*, 1st Computing Symposium, Integrating new Technologies Trends, Trujillo–Peru.
- 2001 *3D Object Modeling using Surfaces*, 1st Computing Symposium, Integrating new Technology Trends, Trujillo–Peru.
- 2001 *Alternative Methods for Automatic Image Contrast Enhancement*, 19th Colloquium of the Peruvian Mathematic Society, Trujillo–Peru.
- 2001 *Automatic Image Contrast Enhancement by applying PDE*, 1st International Conference on Applied & Computational Mathematics (CIMAC), Trujillo–Peru.

---

## Research Work, including projects with research grants.

At ORAND S.A (Chile)

- 2015-2016 CORFO INNOVA 15ITE2-38948 *Búsqueda en catálogos de tiendas usando visión por computador y tecnología móvil.*
- 2013-2014 CORFO-L2 (12IDL2-16293) *Reconocimiento de texto manuscrito, verificación de autenticidad y aseguramiento de integridad de documentos digitalizados.*
- 2013-2015 CONICYT-PAI (78120425) *Desarrollo de nuevas tecnologías basadas en visión computacional para mejorar los canales de entrega de servicios en la industria bancaria y del retail así como para acercar la tecnología basada en búsqueda de imágenes a grupos minoritarios.*
- 2014-2015 STIC-AMSUD *Dynamic Selection of Classifiers with Application in Real Environments.*

At University of Chile (Chile)

- 2009 Automatic Handwritten Text Recognition for Bank Checks.

At National University of Trujillo (Peru)

- 2005 Improvement of the Facial Feature Selector using Wavelets for Automatic Face Recognition.
- 2003 Axiomatic Development of the Entropy Function.

---

## Supervised Undergraduate Thesis

- 2014 Diseño e Implementación de un Sistema de Detección Automática de Publicidad de en Prensa Escrita. *Author Student:* Maximiliano Ramírez. Universidad de Chile.
- 2006 An Image Segmentation Algorithm Design applying the Mumford-Shah Functional. *Author Student:* Anali Alfaro Alfaro & Ivan Sipiran Mendoza. Universidad Nacional de Trujillo.
- 2006 Facial Geometric Feature Extraction using Active Contours. *Author Student:* Jorge Bravo Escalante & Yesenia Alayo La Rosa. Universidad Nacional de Trujillo.
- 2004 Automatization of the Process of Template Serializing in the Context of Footwear Manufacturing. *Author Student:* Maria Isabel Ganoza. Universidad Nacional de Trujillo.

---

## Organizing Committee

- 2016 International Conference on Pattern Recognition Applications and Methods, Rome-Italy.
- 2006 1st Computer Science Week (SECICOMP), Trujillo-Peru.
- 2004 EXPOSYSTEM 2004, Trujillo-Peru
- 2004 5th Italo Latin American Conference on Applied & Industrial Mathematics (ITLA 2004), Trujillo-Peru.
- 2001 19th Colloquium of the Peruvian Mathematic Society, Trujillo-Perú.

---

## Languages

- Spanish Native language
- English High (Reading, Writing, Listening, Speaking)
- Portuguese Able to read technical texts.