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# Javier A. Montoya-Zegarra

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## Education

- Institute of Computing, University of Campinas (Unicamp), Sao Paulo, Brazil** **March 2005 – December 2007**  
**Master Degree in Computer Science (GPA: 3.75/4.00, Attended Courses: 10)**  
*Course Work:* Image Processing, Content-Based Image Retrieval, Wavelets, Mathematical Morphology, Topics in Image Processing, Algorithms Complexity Analysis, Databases I and II, PC Architecture, and Distributed Systems.  
*Dissertation Project:* Rotation-invariant and Scale-invariant Texture Description for Image Identification and Recognition.  
*Advisors:* Prof. Neucimar J. Leite and Prof. Ricardo Torres.
- Faculty of Engineering, San Pablo Catholic University (UCSP), Arequipa, Peru** **March 2000 – December 2004**  
**Bachelor Degree in Computer Engineering (with Honors)**  
*Final Project:* Human Face Detection and Tracking in Video Sequences.  
*Advisors:* Prof. Juan Carlos Gutierrez.

## Honors and Distinctions

- M.Sc. Student:** Awarded by Google as the best Master Student in 2007 at the Institute of Computing (University of Campinas - Unicamp). **Awarded on March 9, 2009**
- M.Sc. Thesis:** Best Master Thesis defended in 2007 at the Institute of Computing (University of Campinas - Unicamp). **Awarded on December 3, 2008**
- M.Sc. Funding:** Fellowship sponsored by the Brazilian National Counsel for Technological and Scientific Development (CNPq). **May 2005 – March 2007**
- B.Sc. Funding:** Fellowship sponsored by the San Pablo Catholic University. **March 2002 – December 2004**
- Undergraduate Ranking:** Top 5% Students at the San Pablo Catholic University. **March 2002 – December 2004**
- College Funding:** German-Peruvian Private School Max Uhle Scholarship. **March 1995 – December 1998**

## Research Experience

- Research Assistant** **October 2005 – September 2009**  
**Institute of Computing, University of Campinas, Sao Paulo, Brazil**  
*Supervisor:* Prof. Neucimar J. Leite, Prof. Ricardo Torres, and Prof. Alexandre X. Falcão  
Researched image/signal processing techniques and machine learning methods for image retrieval and classification.
- Research Assistant** **March 2003 – December 2004**  
**Faculty of Engineering, San Pablo Catholic University, Arequipa, Peru**  
*Supervisor:* Prof. Juan Carlos Gutierrez Caceres  
Researched image/signal processing techniques for human face detection and tracking in image sequences.
- Research Assistant** **March 2003 – December 2003**  
**Faculty of Engineering, San Pablo Catholic University, Arequipa, Peru**  
*Supervisor:* Prof. Percy Pari  
Proposed extensions and improvements for the UXF (UML eXchange Format) model.

## Teaching Assistant Experience

### Teaching Assistant

March 2006 – December 2006

**Institute of Computing, University of Campinas, Sao Paulo, Brazil**

*Supervisor: Prof. Ricardo Torres*

Taught three computer science introductory courses for undergraduates in Computer Science, Mathematics, Statistics, and Chemical Engineering (Introduction to data processing, Computer programming algorithms, and File structures).

### Teaching Assistant

August 2003 – December 2003

**Faculty of Engineering, San Pablo Catholic University, Arequipa, Peru**

*Supervisor: Prof. Alfredo Paz*

Taught an introductory course on operating systems for undergraduates in Computer Engineering.

## Industry Experience

### Developer

September 2002 – February 2005

**viventura Reisen GmbH, Arequipa (Peru), Salvador (Brazil)**

*Supervisor: Michael Grubinger, Johannes Textor*

Analyzed, designed, and developed web-oriented information systems. Performed database and server administrative tasks. New personnel instructor.

## Selected Publications

Thiago V. Spina, Javier A. Montoya Zegarra, Paulo A. V. Miranda, and Alexandre Falcão. Improving user control with minimum involvement in user-guided segmentation by image foresting transform. In *Proceedings of the International Conference on Computer Analysis of Images and Patterns (CAIP)*, pages 971–978, Sep 2009. [http://dx.doi.org/10.1007/978-3-642-03767-2\\_118](http://dx.doi.org/10.1007/978-3-642-03767-2_118).

Thiago V. Spina, Javier A. Montoya Zegarra, Alexandre Falcão, and Paulo A. V. Miranda. Fast interactive segmentation of natural images using the image foresting transform. In *Proceedings of the International Conference on Digital Signal Processing (DSP)*, pages 1–8, Jul 2009. <http://dx.doi.org/10.1109/ICDSP.2009.5201044>.

Javier A. Montoya Zegarra, João P. Papa, Neucimar J. Leite, Ricardo da S. Torres, and Alexandre Falcão. Novel approaches for exclusive and continuous fingerprint classification. In *Proceedings of the Pacific-Rim Symposium on Image and Video Technology (PSIVT)*, pages 386–397, Berlin, Heidelberg, Jan 2009. Springer-Verlag. [http://dx.doi.org/10.1007/978-3-540-92957-4\\_34](http://dx.doi.org/10.1007/978-3-540-92957-4_34).

Javier A. Montoya Zegarra, Jan C. Beeck Pepper, Neucimar J. Leite, Ricardo da S. Torres, and Alexandre Falcão. Combining global with local texture information for image retrieval applications. In *Proceedings of the IEEE International Symposium on Multimedia (ISM)*, pages 148–153, Washington, DC, USA, Dec 2008. IEEE Computer Society. <http://dx.doi.org/10.1109/ISM.2008.113>.

Javier A. Montoya-Zegarra, João P. Papa, Neucimar Jerônimo Leite, Ricardo da Silva Torres, and Alexandre X. Falcão. Learning how to extract rotation-invariant and scale-invariant features from texture images. *EURASIP Journal on Advances in Signal Processing, Special Issue on Advances in Signal Processing*, 2008. <http://dx.doi.org/10.1155/2008/691924>.

Javier A. Montoya-Zegarra, Neucimar Jerônimo Leite, and Ricardo da Silva Torres. Wavelet-based feature extraction for fingerprint image retrieval. *Journal of Computational and Applied Mathematics, Special Issue on Emergent Wavelet-based Algorithms in Science and Engineering*, 227(2):294–307, 2008. <http://dx.doi.org/10.1016/j.cam.2008.03.017>.

Javier A. Montoya-Zegarra, João P. Papa, Neucimar Jerônimo Leite, Ricardo da Silva Torres, and Alexandre X. Falcão. Rotation-invariant texture recognition. In George Bebis et al., editor, *Proceedings of Advances in Visual Computing: 3rd Symposium on Visual Computing (ISVC)*, volume 4842 of *Lecture Notes in Computer Science*, pages 193–204. Springer, Nov 2007. [http://dx.doi.org/10.1007/978-3-540-76856-2\\_19](http://dx.doi.org/10.1007/978-3-540-76856-2_19).

Javier A. Montoya-Zegarra, Neucimar Jerônimo Leite, and Ricardo da Silva Torres. Rotation-invariant and scale-invariant steerable pyramid decomposition for texture image retrieval. In Alexandre X. Falcão and Hélio Lopes, editors, *Proceedings of the XX Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI)*, pages 121–128. IEEE Computer Society, Oct 2007. <http://dx.doi.org/10.1109/SIBGRAPI.2007.37>.

## Scientific Committees

**External Reviewer:** Brazilian Symposium on Computer Graphics and Image Processing 2009 (SIBGRAPI), Brazilian Workshop of Undergraduate Works on Computer Science 2009 (in conjunction with CSBC), Brazilian Workshop of Undergraduate Works on Computer Graphics and Image Processing 2007 (in conjunction with SIBGRAPI), Brazilian Workshop on Digital Libraries 2007 (in conjunction with WEBMEDIA).

**Program Committee:** Peruvian Workshop on Computer Science 2009, Peruvian Symposium on Computer Graphics and Image Processing 2009, Peruvian Workshop on Computer Science 2008, Peruvian Symposium on Computer Graphics and Image Processing 2008, IEEE Andescon 2008, Peruvian Workshop on Computer Science 2007, Peruvian Symposium on Computer Graphics and Image Processing 2007.

## Technical Skills

**Programming Languages:** C, C++, Matlab.

**Language Skills:** English (fluent), German (fluent), Portuguese (fluent), Spanish (native language).

## References

Available upon request.