

JUAN MANUEL BARRIOS

DIRECTOR OF RESEARCH
ORAND S.A., CHILE

PERSONAL INFORMATION

FULL NAME Juan Manuel Barrios Núñez
NATIONALITY Chilean
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EDUCATION

2007—2013 Ph.D. in Computer Science
University of Chile, Santiago, Chile.
Thesis: Content-Based Video Copy Detection.
Supervised by Prof. Benjamin Bustos.
Thesis committee: Prof. Gonzalo Navarro, Prof. Jorge Pérez, Prof. Shin'ichi Satoh.

2003—2006 M.Sc. in Computer Science
University of Chile, Santiago, Chile.
Thesis: Catalogación y búsqueda semántica en un sitio web.
Supervised by Prof. Claudio Gutiérrez.
Passed with maximum distinction. Final mark: 6.8.

1997—2003 Computer Engineer
University of Chile, Santiago, Chile
Thesis: Investigación de la plataforma J2EE y su aplicación práctica.
Supervised by Prof. Dionisio González.
Passed with maximum distinction. Final mark: 6.5 (1st of 514).

1997—2002 B.Sc. in Engineering with a major in Computer Science.
University of Chile, Santiago, Chile.
Passed with distinction. Final mark: 5.7 (8th of 153).

RESEARCH INTERESTS

RESEARCH LINES

Computer Vision, Multimedia Information Retrieval, Data Mining.

PERSONAL PROJECTS

METRICKNN Software for Similarity Search. Released under FreeBSD license.
<http://metricknn.org/>

P-VCD Software for Video Copy Detection. Released under GPL license.
<http://sourceforge.net/projects/p-vcd/>

IMAGESEARCH Image Retrieval on Flickr images.
<http://prisma.dcc.uchile.cl/ImageSearch/>

CATALOGO Software for cataloging resources on a web site. Released under GPL license.
<http://sourceforge.net/projects/catalogo/>

PROFESSIONAL EXPERIENCE

- 2012—NOW Director of Research
ORAND S.A.
Estado 360 of. 702, Santiago, Chile. 8320180.
- 2006—2007 Java Enterprise Architect
Pragma Informática S.A.
Galvarino Gallardo 1594, Providencia, Santiago, Chile.
- 2005—2007 Java Platform Consultant (Part-Time)
Universidad Metropolitana de Ciencias de la Educación (UMCE),
Departamento de Informática.
José Pedro Alessandri 774, Ñuñoa, Santiago, Chile.
- 2001—2006 Software Engineer
Pragma Informática S.A.
Galvarino Gallardo 1594, Providencia, Santiago, Chile.

SELECTED PUBLICATIONS

JOURNALS ISI

- [1] Juan Manuel Barrios, Benjamin Bustos, and Tomáš Skopal. Analyzing and Dynamically Indexing the Query Set. *Information Systems*, 2014. In press. Elsevier.
- [2] Juan Manuel Barrios and Benjamin Bustos. Competitive Content-Based Video Copy Detection using Global Descriptors. *Multimedia Tools and Applications*, 62(1):75–110, 2013. ISSN: 1380-7501. Springer.
- [3] Benjamin Bustos, Tobias Schreck, Michael Walter, Juan Manuel Barrios, Matthias Schaefer, and Daniel Keim. Improving 3D Similarity Search by Enhancing and Combining 3D Descriptors. *Multimedia Tools and Applications*, 58(1):81–108, 2012. ISSN: 1380-7501. Springer.

INTERNATIONAL CONFERENCES

- [1] Juan Manuel Barrios, Jose M. Saavedra, Felipe Ramirez, and David Contreras. ORAND at TRECVID 2014: Instance Search and Multimedia Event Detection. In *TRECVID 2014*. NIST.
- [2] Juan Manuel Barrios, Jose M. Saavedra, Felipe Ramirez, and David Contreras. ORAND Team: Instance Search and Multimedia Event Detection Using k-NN Searches. In *TRECVID 2013*. NIST.
- [3] Juan Manuel Barrios and Benjamin Bustos. PRISMA-ORAND team: Instance Search Based on Parallel Approximate Searches. In *TRECVID 2012*. NIST.
- [4] Juan Manuel Barrios, Benjamin Bustos, and Tomáš Skopal. Snake Table: A Dynamic Pivot Table for Streams of k-NN Searches. In *Proceedings 5th International Conference on Similarity Search and Applications (SISAP'12)*, LNCS, pages 25–39. Springer. Selected between the best papers.
- [5] Juan Manuel Barrios, Benjamin Bustos, and Xavier Anguera. Combining Features at Search Time: PRISMA at Video Copy Detection Task. In *TRECVID 2011*. NIST.
- [6] Xavier Anguera, Tomasz Adamek, Daru Xu, and Juan Manuel Barrios. Telefonica Research at TRECVID 2011 Content-Based Copy Detection. In *TRECVID 2011*. NIST.

- [7] Xavier Anguera, Juan Manuel Barrios, Tomasz Adamek, and Nuria Oliver. Multimodal Fusion for Video Copy Detection. In *Proceedings 19th ACM International Conference on Multimedia (MM'11)*, pages 1221–1224. ACM.
- [8] Juan Manuel Barrios and Benjamin Bustos. P-VCD: A Pivot-Based Approach for Content-Based Video Copy Detection. In *Proceedings IEEE International Conference on Multimedia and Expo (ICME'11)*, pages 1–6. IEEE.
- [9] Juan Manuel Barrios and Benjamin Bustos. Automatic Weight Selection for Multi-Metric Distances. In *Proceedings 4th International Conference on Similarity Search and Applications (SISAP'11)*, pages 61–68. ACM.
- [10] Juan Manuel Barrios and Benjamin Bustos. Content-Based Video Copy Detection: PRISMA at TRECVID 2010. In *TRECVID 2010*. NIST.
- [11] Barbara Poblete, Benjamin Bustos, Marcelo Mendoza, and Juan Manuel Barrios. Visual-Semantic Graphs: Using Queries to Reduce the Semantic Gap in Web Image Retrieval. In *Proceedings 19th ACM International Conference on Information and Knowledge Management (CIKM'10)*, pages 1553–1556, 2010. ACM.
- [12] Juan Manuel Barrios. Content-Based Video Copy Detection. In *Proceedings 17th ACM International Conference on Multimedia (MM'09)*, pages 1141–1142, 2009. ACM.

THESES

- [1] Juan Manuel Barrios. Content-Based Video Copy Detection. PhD thesis, Department of Computer Science, University of Chile, 2013. Benjamin Bustos, advisor.
- [2] Juan Manuel Barrios. Catalogación y Búsqueda Semántica en un Sitio Web. M.Sc. thesis, Department of Computer Science, University of Chile, 2006. Claudio Gutiérrez, advisor. In Spanish.

EXTERNAL REVIEWER

2011 International Conference on Similarity Search and Applications (SISAP 2011).

SCHOLARSHIPS

2007—2011 CONICYT Ph.D. Scholarship

2005 M.Sc thesis funded by FONDECYT grant 1030810, “Metadatos para describir y consultar la Web Oculta”.

AWARDS AND HONORS

2011 Distinguished graduate student of the Department of Computer Science, University of Chile.

2003 Computer Engineering title obtained in 1st position between 514 students.

2003 B.Sc. obtained in 8th position between 153 students.

1997—2002 Distinguished student of the Faculty of Physics and Mathematical Sciences, University of Chile (best 6% of all students of the Faculty) for years 1997, 1999, 2000, 2001, and 2002.

RESEARCH PROJECTS

- 2014–Now Stic-AmSud Project 14STIC-04. Researcher.
“Unsupervised Multimedia Content Mining”.
- 2013–Now CONICYT PAI-78120426. Main Researcher.
“Software development for multimedia event detection”.
- 2012–2014 CORFO-INNOVA 12IDL2-16293. Project Manager.
“Handwriting recognition, authenticity verification, and assurance of integrity of scanned documents”.
- 2008–2013 PRISMA Research Group at the Department of Computer Science, University of Chile.
Research Assistant.
- 2005 FONDECYT grant 1030810. Research Assistant.
“Metadata to describe and query the hidden Web”.

RESEARCH STAYS

- 2011 Short research stay at Telefonica Research, Multimedia Information Analysis Group.
July 4th-8th 2011. Barcelona, Spain. Contact: Dr. Xavier Anguera.

TEACHING EXPERIENCE

- Professor of “Content-Based Image and Video Retrieval” at the Department of Computer Science, University of Chile: Fall-2011, Spring-2011, Fall-2012, Spring-2012, Fall-2013, Spring-2014.
- Teaching assistant of “Operating Systems” at the Department of Computer Science, University of Chile: Spring-2010, Fall-2010, Spring-2009, Spring-2008, Spring-2007, Spring-2002.
- Teaching assistant of “Algorithms and Data Structures” at the Department of Computer Science, University of Chile: Spring-2010, Spring-2009, Fall-2000.
- Professor of “Oracle 10g: Build J2EE Applications” at SQL*Technology Chile: Jan-2006, Mar-2005, Dec-2004.
- Professor of “Oracle 10g: Java Programming” at SQL*Technology Chile: Dec-2005, Nov-2004.
- Teaching assistant of “Data Communication” at the Department of Computer Science, University of Chile: Fall-2002.
- Teaching assistant of “Computer Science I” at the Department of Computer Science, University of Chile: Fall-2000.

CREATED COURSES

- 2011 Content-Based Image and Video Retrieval (CC5204). Department of Computer Science, University of Chile.