

# Resumé – Rodrigo Verschae, Dr.

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Universidad de Chile  
Advanced Mining Technology Center (AMTC)

- EDUCATION (SELECTED) ♦ **Doctor** in Electrical Engineering , Universidad de Chile, Chile, 2010.  
· Title: Object Detection Using Nested Cascades of Boosted Classifiers  
· Advisor: Prof. Javier Ruiz-del-Solar
- ♦ **M.Sc.** in Applied Mathematics, École Normale Supérieure (ENS) de Cachan, France, 2006.  
· Program: Mathematics, Vision and Learning.
- RESEARCH INTEREST Computer vision, machine learning, pattern recognition, image processing, object detection, object recognition, image understanding, face analysis and multimedia retrieval.
- APPOINTMENTS ♦ **Postdoctoral Fondecyt Fellow** (October 2011– present),  
Advanced Mining Technology Center (AMTC), Universidad de Chile, Chile.
- ♦ **Research Associate** (April 2010 – September 2011),  
Advanced Mining Technology Center (AMTC), Universidad de Chile, Chile.
- ♦ **Postdoctoral Research Fellow** (July 2009 – March 2010),  
Network Design Research Center (NDRC), Kyushu Institute of technology, Japan.
- ♦ **Research Associate** (November 2004 – March 2005),  
Dept. of Pattern Recognition, Fraunhofer IPK, Berlin, Germany.
- ♦ **Research Collaborator** (April 2004 – December 2004),  
Center for Web Research, Universidad de Chile, Santiago, Chile.
- RESEARCH VISITS (SELECTED) ♦ **Network Design Research Center**, (September 2011 – March 2012)  
Kyushu Institute of technology, Japan. Postdoctoral grant awarded by CONICYT, Chile.
- ♦ **Image Processing Group**, (September – October 2008)  
Pompeu Fabra University, Barcelona. Travel Grant awarded by VAA, Universidad de Chile.
- ♦ **Center for Mathematics and Their Applications**, (March – August 2007)  
École Normale Supérieure (ENS) Cachan, France.
- PROJECTS (SELECTED) ♦ **Fondecyt Postdoctoral Grant:** "Boosting Learning Algorithms for Multiclass Classification and Multidimensional Regression: Applications to Object Detection and Classification"  
Granted by FONDECYT (Chile), Grant N. 3120218, two years (10/2011-09/2013, USD\$80000).  
Principal Investigator.
- ♦ **FaceQS-Tool:** Development of a Face Detector, an Eye Detector and a Pose Estimator,  
software licenced to the Fraunhofer-IPK Institute, Berlin, and the Bundesdruckerei (Federal German printing office) for their e-passport production system. Work done at Univ. of Chile.
- ♦ **ETHICAL project:** FP7 project of the European Commission for "Promoting International Debate on Ethical Implications of Data Collection, use and retention for Biometric and Medical Applications" Part of the Universidad de Chile working group (attended project's meetings, prepared deliverables, etc).
- PUBLICATION SUMMARY 1 book chapter, 1 doctoral thesis, 2 master theses, 9 journal articles and 27 peer-reviewed conference papers. In total 10 of these publications are ISI indexed.

- LANGUAGES Native *Spanish*, fluent *English*, intermediate *French*, basic-intermediate *German*, and basic *Japanese*.
- GRANTS & AWARDS (SELECTED)
- ◇ **Fondecyt Postdoctoral Grant** (2011-2013) awarded by the Fondecyt program (Chile) for basic research, ranked in the best 10% (among 200 applicants)
  - ◇ **ALFA Fellowship** (Oct 2005 - Sept 2006 & March - Sept 2007). Granted by the ALFA Network in Computer Vision. Research visit at École Normale Supérieure de Cachan, France.
  - ◇ **CONICYT Doctoral Fellowship** (2005-2008). Fellowship awarded by CONICYT-Chile (Science and Technology Chilean Commission) to pursue Doctoral studies.
  - ◇ **1st place, IEEE RAS Poster competition**, (2007, with M. Arenas), *Detection of AIBO and Humanoid Robots using Boosted Cascades*, LA Summer School on Robotics, Chile.
- ACADEMIC ACTIVITIES
- ◇ **Teaching Assistant:**
    - Advanced Image Processing (1 semester, 2008); Information Processing Systems (1 semester, 2001); Networks Analysis (3 semesters, 1999 – 2001), Univ. de Chile, Chile
  - ◇ **Master Thesis** (Co-Supervisor & reviewing committie)
    - Universidad de Chile, 2007, 2008 & 2009 (Co-supervisor & reviewing, 3 Theses)
    - Gjovik College University, Norway, 2011 & 2012 (External Reviewer of 3, and External Reviewer of the Pattern Recognition Course).
  - ◇ **Tutorials and presentations** (Selected)
    - EVIC (Santiago, Chile, 2004, 2006, 2010), WSC10 (On the World Wide Web, 2005), School on Neuromathematics of Vision (Pisa, Italy, 2006), ALFA workshop on Computer Vision Foundations and Applications (Paris, France, 2008).
  - ◇ **International Conferences, Journals & Committee**
    - General Co-Chair: IEEE RAS Summer School on Robot Vision & Application ('12); Web Chair: WSC14 ('09); Track Chair: ICETET ('09); Program Committee: PSIVT ('07), HIS ('10); Reviewer: SPIRE, WSC10, LA-WEB ('05), IVCNZ, ISNN ('09).
    - Journal Reviewer: IJHIS ('05), IJCIR ('05), IEE VIS ('06 and '07), MVA ('07), IJCV ('09), SIMPAT ('10), COMPELECENG ('10, '11), ASOC ('11, '12), SMC-A ('12).
- PUBLICATIONS (SELECTED)
- Correa M., Hermosilla G., Verschae R., Ruiz-del-Solar J., *Human Detection and Identification by Robot using Thermal and Visual Information in Domestic Environments*, In Journal of Intelligent and Robotic Systems (in press), 2012 (**ISI**)
- Ruiz-del-Solar J., Verschae R., Arenas M., Loncomilla P., *Play Ball! Fast and Accurate Multiclass Visual Detection of Robots and its Application to Behavior Recognition*, In Robotics Automation Magazine (RAM), IEEE, vol. 17, no. 4, pp. 43 -53, 2010 (**ISI**)
- Arenas M., Ruiz-del-Solar J., Verschae R., Loncomilla P. (2010) *Visual Detection of Legged Robots and Its Application to Robot Soccer Playing and Refereeing*, In International Journal on Humanoid Robotics, vol. 7, no. 4, pp. 669-698, 2010. (**ISI**)
- Ruiz-del-Solar, J., Verschae, R., Correa, M. (2009) *Recognition of Faces in Unconstrained Environments: A Comparative Study*, EURASIP Journal on Advances in Signal Processing, vol 2009, Article ID 184617, 19 pages. (**ISI**)
- Verschae, R., Ruiz-del-Solar, J., Correa, M., (2008) *A Unified Learning Framework for object Detection and Classification using Nested Cascades of Boosted Classifiers*, Machine Vision and Applications, 19(2): 85-103. (**ISI**)
- Soria-Frisch, A., Verschae, R., Olano, A. (2007), *Fuzzy fusion for skin detection*, Fuzzy Sets and Systems, 158(3): pp. 325-336. (**ISI**)
- Verschae R., Ruiz-del-Solar, J., (2006) *State of the Art Face Detection: Cascade Boosting Approaches*, in Tiwari, A.; Knowles, J.; Avineri, E.; Dahal, K.; Roy, R. (Eds.), Applications of Soft Computing: Recent Trends, Springer.