Résumé – Rodrigo Verschae, Dr.

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Graduate School of Informatics
Kyoto University, Kyoto, Japan

APPOINT-MENTS

◇ **Project-Specific Researcher** (July 2013 – Present),
Graduate School of Informatics, Kyoto University, Kyoto, Japan.

◇ **Postdoctoral Fondecyt Fellow** (October 2011 – June 2013),
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 INTERESTS

Computer and robot vision

Machine learning and pattern recognition

Distributed, decentralized, autonomous and robotic systems

Applications: Face analysis, object detection, object recognition, and scene understanding

Applications: Distributed architectures for demand-side management in Smartgrids

EDUCATION (SELECTED)

◇ *Doctor* in Electrical Engineering , Universidad de Chile, Chile, 2010.
· Thesis: *"Object Detection Using Nested Cascades of Boosted Classifiers: A learning framework and its extension to the multi-class case"*.

◇ *M.Sc.* in Applied Mathematics, École Normale Supérieure (ENS) de Cachan, France, 2006.
· Program: Mathematics, Vision and Learning.

◇ *B.S* in Computer Engineering and in Electrical Engineering, Universidad de Chile, Chile, (2001 and 2000 respectively).

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. Research Grant awarded by VAA, Univ. de Chile.

◇ **Center for Mathematics and Their Applications**, (March – August 2007)
École Normale Supérieure (ENS) Cachan, France.

PUBLICATION SUMMARY

2 book chapters, 1 doctoral thesis, 2 master theses, 11 journal articles, and 30 peer-reviewed conference papers.

Full list at http://rodrigo.verschae.org/pub and at Google Scholar profile (http://goo.gl/g6ly7j).

LANGUAGES

Native *Spanish*, fluent *English*, intermediate *French*, basic *German*, and basic *Japanese*.

Programming: C and Go. Familiar with Matlab, JAVA, C++, Bash/Awk and OpenMP.

PROJECTS
(SELECTED)

◇ **Fondecyt (Chile) Postdoctoral Grant**
"Boosting Learning Algorithms for Multiclass Classification and Multidimensional Regression: Applications to Object Detection and Classification". Grant N. 3120218, 2 years (USD$80000). Principal Investigator.

◇ **FaceQS-Tool**
Development of a face detector, an eye detector and a pose estimator. Software licensed 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.

GRANTS &
AWARDS
(SELECTED)

◇ **Fondecyt Postdoctoral Grant (Chile)** (2011-2013)
Awarded by the Fondecyt-Chile program for basic research. The application was 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 to do a research visit at the Center for Applied Mathematics, 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 at Universidad de Chile.

◇ **1st place, IEEE RAS Poster competition**, (2007, with M. Arenas)
Award for our work on *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), Univeridad de Chile, Chile,
· Information Processing Systems (1 semester, 2001), Univeridad de Chile, Chile,
· Networks Analysis (3 semesters, 1999 – 2001), Univeridad de Chile, Chile,
· Pattern Recognition (external reviewer, 2011-2014), Gjovik College University, Norway.

◇ **Master Thesis** (Co-Supervisor & review committee)
· Co-supervisor & reviewer, 3 Theses, Universidad de Chile, 2007, 2008 & 2009.
· External reviewer, 3 Theses, Gjovik College University, Norway, 2011, & 2012.

◇ **Tutorials and presentations** (Selected)
· Summer School on Computational Intelligence (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 & Committees**
· Organization: *General Co-Chair* of the IEEE RAS Summer School on Robot Vision'12; *Web Chair* of WSC14'09; *Program Committee* of PSIVT'07, HIS'10;
· Conference Reviewer: SPIRE'05, WSC10,LA-WEB'05, PSIVT'07, IVCNZ'09, ISNN'09, HBU'12, ICAR'13, CLEI'13, LATIN'13, HRI'13, WIND'14, ECC'15.
· Journal Reviewer: IJHIS'05, IJCIR'05, IEE VIS ('06,'07), MVA ('07,'08), IJCV'09, SIMPAT'10, ASOC ('11,'12,'13,'14), SMC-A'12, IJARS ('12,'14), TAMD'13, JIRS'14.

PUBLICATIONS
(SELECTED)

Verschae R., Kawashima H., Kato T., Matsuyama T.,
A Distributed Hierarchical Architecture for Community-based Power Balancing,
SmartGridComm 2014, Venice, Italy, pp 169-175, Venice, Italy, 2014.

Verschae R., Ruiz-del-Solar J.,
TCAS: A multiclass object detector for robot and computer vision applications,
Lecture Notes in Computer Science, vol. 7431, pp. 632-641, 2012.

Correa M., Hermosilla G., **Verschae R.**, Ruiz-del-Solar J.,
Human Detection and Identification by Robot using Thermal and Visual Information in Domestic Environments,
Journal of Intelligent and Robotic Systems vol. 17, no. 1-2, pp. 223-243, 2012.

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,
IEEE Robotics and Automation Magazine (RAM), vol. 17, no. 4, pp. 43-53, 2010.

Arenas M., Ruiz-del-Solar J., **Verschae R.**, Loncomilla P.,
Visual Detection of Legged Robots & Its Application to Robot Soccer Playing and Refereeing,
International Journal on Humanoid Robotics, vol. 7, no. 4, pp. 669-698, 2010.

Verschae R.; Ruiz-del-Solar, J.,
Coarse-To-Fine Multiclass Nested Cascades for Object Detection,
International Conference on Pattern Recognition (ICPR), pp.344,347, 23-26 Aug. 2010

Ruiz-del-Solar, J., **Verschae R.**, Correa, M.
Recognition of Faces in Unconstrained Environments: A Comparative Study,
EURASIP Journal on Advances in Signal Processing, vol 2009, ID 184617, 19 pp, 2009.

Verschae R., Ruiz-del-Solar, J., Correa, M.,
A Unified Learning Framework for object Detection and Classification using Nested Cascades of Boosted Classifiers,
Machine Vision and Applications, vol. 19, no. 2, pp 85-103. 2008.

Soria-Frisch, A., **Verschae R.**, Olano, A,
Fuzzy fusion for skin detection,
Fuzzy Sets and Systems, vol. 158 no. 3, pp. 325-336, 2007.

Verschae R., Ruiz-del-Solar J., Correa M.,
Gender Classification of Faces using Adaboost,
Lecture Notes in Computer Science (LNCS), vol. 4225, pp. 68-77, 2006.

Verschae R., Ruiz-del-Solar, J., (2006)
State of the Art Face Detection: Cascade Boosting Approaches,
Applications of Soft Computing: Recent Trends, Springer; Tiwari, A.; Knowles, J.; Avineri, E.; Dahal, K.; Roy, R. (Eds.).

Ruiz-del-Solar J., **Verschae R.**,
Skin Detection using Neighborhood Information,
International Conference on Automatic Face and Gesture Recognition (FG2004), Seoul, Korea, pp. 463-468, 2004.

Jaimes A., Ruiz-del-Solar J., **Verschae R.**, Yaksic D., Baeza-Yates R., Davis E, Castillo C,
On the Image Content of a Web segment: Chile a case study,
Journal of Web Engineering, vol. 3, no. 2, pp. 153-168, 2004.

Verschae R., Ruiz-del-Solar J.,
A Hybrid Face Detector based on an Asymmetrical Adaboost Cascade Detector and a Wavelet-Bayesian-Detector,
Lecture Notes in Computer Science 2686, pp. 742-749, 2003.