Rodrigo Verschae, Dr.

Curriculum Vitae

Faculty at the Data and AI Initiative (IDIA), Universidad de Chile, Chile

rverschae@uchile.cl · rodrigo.verschae.org · +56 949 179 159 · Birthdate: 1978/02/22

Academic Experience

Aug 2026 – present	*Faculty*, Data and AI Initiative (IDIA), Universidad de Chile, Chile
May 2026 – present	*Research Collaborator*, Centro Nacional de Inteligencia Artificial (Cenia), Chile
Mar 2026 – Jul 2026	*Associate Professor*, Department of Informatics, Universidad Técnica Federico Santa María (UTFSM), Chile
Apr 2019 – Feb 2026	*Associate Professor*, Institute of Engineering Sciences, *Universidad de O'Higgins*, Chile
Mar 2018 – Mar 2019	*Assistant Professor*, Institute of Engineering Sciences, *Universidad de O'Higgins*, Chile
Apr 2017 – Mar 2018	*Assistant Professor*, Smart Energy Research Unit, *Kyoto University*, Japan
Apr 2015 – Mar 2017	*Assistant Professor*, Department of Intelligence Science and Technology, Graduate School of Informatics, *Kyoto University*, Japan
2013 – 2015	*Postdoctoral Researcher*, Graduate School of Informatics, *Kyoto University*, Japan
2011 – 2013	FONDECYT Postdoctoral Research Fellow, Advanced Mining Technology Center (AMTC), *Universidad de Chile*, Chile
2010 – 2011	*Postdoctoral Researcher*, ANID BecasChile Postdoctoral Research Fellow, *Kyushu Institute of Technology*, Japan
2009 – 2010	*Postdoctoral Research Fellow*, Network Design Research Center, *Kyushu Institute of Technology*, Japan
2005 – 2009	*PhD Candidate/Student*, *Universidad de Chile*, Chile
2004 – 2005	*Associated Researcher* (part time), Dept. of Pattern Recognition, *Fraunhofer IPK-Institute*, Berlin, Germany
2003 – 2004	*Research Collaborator*, Center for Web Research (CWR), *Universidad de Chile*, Chile
2003	*Research Assistant*, Department of Electrical Engineering, *Universidad de Chile*, Chile

Education

2010	**Doctor in Electrical Engineering**, *Universidad de Chile*, Chile • Thesis: *Object Detection Using Nested Cascades of Boosted Classifiers: A Learning Framework and its Extension to the Multi-class Case*. • Advisor: Prof. Javier Ruiz-del-Solar • Reviewing committee: Alvaro Soto (PUC), Pablo Estevez (UChile), Doris Saez (UChile), Jean-Philippe Thiran (EPFL)
2007	**Machine Learning Summer School**, Max Planck Institute, Tübingen, Germany (20–31 August)
2006	**Master in Applied Mathematics**, *École Normale Supérieure (ENS) de Cachan*, France (now ENS Paris-Saclay) • Master program: Mathematics, Vision and Learning • Thesis: *Improvement of a Face Detection System using A-Contrario Validation Methods*
2003	**Electrical Engineering degree**, *Universidad de Chile*, Chile • Thesis: *"Face Detection on Image Databases"* (in Spanish)
2002	**Bachelor in Computer Engineering**, *Universidad de Chile*, Chile
2001	**Bachelor in Electrical Engineering**, *Universidad de Chile*, Chile

Research Interests

- **Computer vision**
  - Object detection, object recognition
  - Face analysis, face recognition, biometrics
  - Image analysis and modeling; scene understanding
- **Intelligent systems / Artificial intelligence**
  - Machine learning
  - Pattern recognition
- **Robotics**
  - Robot vision
  - Field robotics
- **Networked and cooperative systems**
  - Distributed, autonomous, robotic and multi-agent systems
  - Sensing and distributed networks
- **Application areas**
  - Smart agriculture / precision agriculture
  - Coordinated energy management
  - Education
  - Health

Publication Summary (as of August 2026)

Journal articles 25
Book chapters 3
Conference papers 55 (peer-reviewed)
Theses 1 doctoral, 2 master-level
Other 4 technical reports and magazine articles
ORCID 0000-0002-1661-3309
h-index (2025) 14 (Web of Science), 16 (Scopus), 20 (ResearchGate), 22 (Google Scholar)

Journal Publications (WoS), last five years

2026

[J26] Fernanda Borja, Jaime Aranda Cubillo, Ignacio Bugueno-Cordova, **Rodrigo Verschae**, Pablo Palacios Jativa, David Zabala-Blanco, and Cesar Azurdia-Meza. "Design and Implementation of a Feedback-Aware MISO Optical Camera Communication System Using an Event Camera". *IEEE Photonics Technology Letters*, 2026, 10.1109/LPT.2026.3692381. WoS, Q2, IF 2.5

[J25] **Rodrigo Verschae**, Ignacio Bugueno. "evTransFER: A Transfer Learning Framework for Event-based Facial Expression Recognition". *Neurocomputing*, vol. 2071, 2026, 10.1016/j.neucom.2026.132641. WoS, Q1, IF 6.4

2025

[J24] Rohit Singla, **Rodrigo Verschae**, Harish Parthasarathy. "Large Deviation-Based Noise Mitigation in Coupled Quantum Robotic Systems". *Quantum Information Processing*, 24, 358, 2025, 10.1007/s11128-025-04982-5. WoS, Q2, IF 2.2

[J23] Luis Cossio, Cristobal Quininao, **Rodrigo Verschae**. "Orchard Sweet Cherry Color Distribution Estimation from Wireless Sensor Networks and Video-based Fruit Detection". *Computers and Electronics in Agriculture*, 2025. WoS, Q1, IF 7.7

[J22] Robert Guaman, Jose Delpiano, **Rodrigo Verschae**. "Event-based optical flow: method categorisation and review of techniques that leverage deep learning". *Neurocomputing*, 2025, https://www.sciencedirect.com/science/article/abs/pii/S0925231225005715. WoS, Q1, IF 6.4

2024

[J21] Rohit Singla, **Rodrigo Verschae**, Stefan Escaida, Harish Parthasarathy. "Estimating time-varying delays and parametric uncertainties in teleoperated robots". *Nonlinear Dynamics*, 2024, 10.1007/s11071-024-10602-1. WoS, Q1, IF 5.2

[J20] Luis Cossio, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Cherry CO Dataset: a dataset for cherry detection, segmentation and maturity recognition". *IEEE Robotics and Automation Letters*, 2024, 10.1109/LRA.2024.3393214. WoS, Q1, IF 5.2

Peer-reviewed conferece Publications, last five years

2026

[C55] Ignacio Bugueno, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Moving6DPoSe: A Multimodal Database for Monocular 6D Pose Estimation and Segmentation of Moving Objects". NEVI Workshop, ECCV, 2026 (accepted)

[C54] Ignacio Bugueno-Cordova, Fabian Ignacio Valderrama-Penaloza, **Rodrigo Verschae**. "eBIRD: Event-based Intensity Image Reconstruction Using Controllable Diffusion Models". NEVI Workshop, ECCV, 2026 (accepted)

[C53] Ignacio Bugueno-Cordova, Malte Kuhlmann, Nicolás Navarro-Guerrero, **Rodrigo Verschae**, Miguel Campusano. "EsaacSim: A Multimodal Event Camera Add-on for NVIDIA Isaac Sim". NEVI Workshop, ECCV, 2026 (accepted)

[C52] Anis Ben Mabrouk, Gabriele Facciolo, Rafael Grompone von Gioi, Alex Davy, Antoine Tadros, **Rodrigo Verschae**. "Pair-Conditioned Representations for Robust Same-View Vehicle Re-Identification". EUSIPCO, 2026 (accepted)

[C51] Nicolas Mastropasqua, Daniel Acevedo, Ignacio Bugueno, **Rodrigo Verschae**. "Event-based Liveness Detection using Temporal Ocular Dynamics: An Exploratory Approach". FG 2026, Facial Micro-Expression (FME) Workshop, 2026 (accepted)

[C50] Ariel Zuñiga-Santana, Gabriele Facciolo, Shohei Nobuhara, **Rodrigo Verschae**. "A Multi-View Photometric Stereo Pipeline for Specular 3D Fruit Reconstruction". WACV 2026 Workshop HARVESTVision, 2026

2025

[C49] Nicolas Mastropasqua, Ignacio Bugeno-Cordova, **Rodrigo Verschae**, Daniel Acevedo, Pablo Negri, Maria Elena Buemi. "Event-based facial microexpression analysis using Spiking Neural Networks". ICPRS, 2025

[C48] Nicolas Mastropasqua, Daniel Acevedo, Ignacio Bugueno, **Rodrigo Verschae**. "Exploring spatial-temporal dynamics in event-based facial microexpression analysis". 2nd Workshop on Neuromorphic Vision, ICCV, 2025

[C47] Ignacio Bugueno, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Human-Robot Navigation using Event-based Cameras and Reinforcement Learning". ADV Workshop, ICIAP, 2025

[C46] Ignacio Bugueno-Cordova, Jairo Navarrete, Christopher A. Flores, **Rodrigo Verschae**. "Visualization of Profiles and Trajectories in Early Childhood Math Abilities using Data Mining Techniques". ICETC, 2025

[C45] Ignacio Bugueno, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Human-Robot Navigation using Event-based Cameras and Reinforcement Learning". CVPR 2025 Workshop on Event-based Vision, 2025

[C44] Christopher A. Flores, **Rodrigo Verschae**. "Active Learning in Biomedical Text Classification Using a Bag-of-Regular-Expressions Approach". IEEE CBMS 2025 (IEEE International Symposium on Computer-Based Medical Systems), 2025

2024

[C43] Robert Guaman, Ariel Zuniga-Santana, **Rodrigo Verschae**. "Assessment of deep learning-based detection algorithms using event camera for construction applications". Proc. 3rd Future of Construction Workshop at ICRA 2024, pp. 5–8, ISSN 2413-5844, May 2024, 10.22260/ICRA2024/0004

[C42] Christopher A. Flores, Ariel I. Valenzuela, **Rodrigo Verschae**. "Active Learning for Image Classification: A Comprehensive Analysis in Agriculture". In: Yang X.-S., Sherratt R.S., Dey N., Joshi A. (eds), *Proc. Ninth International Congress on Information and Communication Technology (ICICT 2024)*, Lecture Notes in Networks and Systems, vol. 1055, Springer, Singapore, 10.1007/978-981-97-5441-0$_4$9

[C41] Christopher A. Flores, **Rodrigo Verschae**. "A Hybrid Method for Clinical Text Classification Based on Confident Predictions and Regular Expressions". ICAIIC 2024, Osaka, Japan

[C40] Ignacio Bugueno-Cordova, Miguel Campusano, Robert Guaman-Rivera, **Rodrigo Verschae**. "A Color Event-Based Camera Emulator for Robot Vision". In: Filipe J., Röning J. (eds), *Robotics, Computer Vision and Intelligent Systems* (*ROBOVIS 2024*), CCIS vol. 2077, Springer, Cham, 2024, 10.1007/978-3-031-59057-3$_2$4

2023

[C39] Christopher A. Flores, **Rodrigo Verschae**. "Combining Regular Expressions and Supervised Algorithms for Clinical Text Classification". In: Quaresma P. et al. (eds), *Intelligent Data Engineering and Automated Learning – IDEAL 2023*, LNCS vol. 14404, Springer, Cham, 10.1007/978-3-031-48232-8$_3$5

[C38] Jairo A. Navarrete-Ulloa, Llery Ponce Pradenas, Christopher A. Flores, **Rodrigo Verschae**. "An Automated Assessment of Early Math Abilities Based on Digital Games". 11th International Conference on Information and Education Technology (ICIET), Fujisawa, Japan, 2023, pp. 172–176, 10.1109/ICIET56899.2023.10111319

Academic Administration Experience

Sep 2020 – May 2023 *Director*, Institute of Engineering Sciences, *Universidad de O'Higgins*, Chile. *Main achievements:*

- Faculty size increased from 19 (2020) to 35 (2023)
- Percentage of female professors increased from 5% (2020) to 15% (2023)
- Postdocs increased from 4 (2020) to 12 (2023)
- Total number of members (full-time staff including professors) increased from 25 (2020) to 50 (2023)
- Graduate programs: from 0 (2020) to 1 doctoral and 3 master programs (March 2023)
- Labs: from 2 (2020) to 6 (May 2023), with 10 expected for July 2023; lab area grew from 200 m^2 (2020) to over 900 m^2 (2023)
- Coordinated the design of a new campus in Rengo (over 25 000 m^2), including a new building (over 5 000 m^2) for the Institute of Engineering Sciences

Apr – Aug 2020 *Interim Director*, Institute of Engineering Sciences, *Universidad de O'Higgins*, Chile

2019 – Aug 2020 *University Academic Council Member*, *Universidad de O'Higgins*, Chile

Grants, Awards, and Fellowships

Research: Competitive Grants and Projects

2026 – 2030 **Fondecyt Regular 1260786**

- Role: *Co-PI*
- Project: "Advanced tactile robotics technologies for studying the neuroscience of social touch and enhancing human-robot communication"

2026 **Internal UOH "URO2495-2026" fund**

- Role: *Director*; direction transferred to Daniel Casagrande after moving to USM
- Project: "Technology transfer of a Precision Livestock monitoring system in the coastal drylands of O'Higgins: LoRaWAN and Computer Vision for location, behavior analysis, and automated counting of sheep and cattle"
  (*"Transferencia tecnológica de un sistema de monitoreo de Ganadería de Precisión en el secano costero de O'Higgins: LoraWAN y Visión Computacional para localización, análisis de comportamiento y conteo automatizado de ovinos y bovinos"*)
- Funded by Universidad de O'Higgins, Fondo de Fomento a la Innovación, Transferencia Tecnológica y de Conocimiento en la Provincia de Cardenal Caro (URO2495): $10.000.000 CLP (USD 10,000) for 10 months

2025 – 2026 **Internal UOH "URO2495" fund**

- Role: *Director*
- Project: same title as above (precision livestock monitoring, Cardenal Caro)
- Funded by Universidad de O'Higgins (URO2495): $10.000.000 CLP (USD 10,000) for 8 months

2025 – 2026 **Internal UOH "Interdisciplinary" funds, INTER2404**

- Role: *Director*; direction transferred to Karen Mesa after moving to USM
- Project INTER2404: "Building models of cherry development and maturity using AI and 3D computer vision from hyperspectral imagery" (*"Construcción de modelos de desarrollo y madurez de cerezas mediante IA y visión computacional 3D a partir de imágenes hiperespectrales"*)
- Funded by Universidad de O'Higgins: $18.000.000 CLP (USD 18,000) for 24 months

2025 – 2026 **International Collaboration FOVI, ANID**

- Role: *Director*; direction transferred to Karen Mesa after moving to USM
- Project FOVI240110: "Artificial Intelligence and Robotics for Remote and Proximal Sensing in Precision Agriculture"
- Funded by ANID, FOVI: $30.000.000 CLP (USD 30,000) for 12 months
- Joint project with ENS Paris-Saclay (France), L3S Center of Leibniz Hannover University (Germany), Universidad de la República (Uruguay), Universidad Católica del Uruguay (Uruguay), Universidad de Chile, Pontificia Universidad Católica de Chile and Universidad del Bío-Bío (Chile)

2025 **Internal UOH "Funds for Research of Undergraduate Students"**

- Role: Sponsor
- "Generative AI for depth estimation using event-based cameras", Ariel Valenzuela

2024 – 2026 **Technologies for risk management in cherry production V2**, Project IDI40059070-0

- Role: *Director* (2025–2026), *Alternate Director* (2024)
- "*Transferencia Tecnologías 4.0 para la gestión del riesgo en la cadena de valor de la cereza*"
- Program for Innovation and Competitiveness (FIC-R O'Higgins), Regional Government of the O'Higgins region: $290.000.000 CLP (USD 300,000) for 30 months

2024 – 2026 **Fondecyt Postdoctoral project 3240116** (Robert Guaman)

- Role: *Sponsor/Advisor*
- "Digital twin-based visual servoing strategy for controlling a robotic arm using event cameras in automated construction applications"
- Funded by ANID, Ministry of Science and Technology (Chile)

2024 **Internal UOH "Funds for Research of Undergraduate Students"**

- Role: Sponsor
- *Redes profundas para segmentación en secuencias de imágenes*, Arnaldo Gonzales
- *Redes profundas binarias para reconocimiento de gestures mediante cámaras de eventos*, Martín Sandoval

2024 – 2025 **Internal UOH "Interdisciplinary" funds**

- Role: *Alternate Director*
- "Identification of early mathematics learning profiles and trajectories using artificial intelligence techniques"
- Funded by Universidad de O'Higgins: $16.600.000 CLP (USD 16,000) for 24 months

2023 – 2024 **Internal UOH "Puente" funds**

- Role: *Alternate Director*
- "Bridge Fund for Precision Agriculture Technologies in Cherry Trees in the O'Higgins Region"
- Funded by Universidad de O'Higgins: $5.000.000 CLP (USD 5,000) for 3 months

2023 – 2025 **Investigación Tecnológica 2023, ANID IT23I0012**

- Role: *Alternate Director*
- "Pedagogical management system for the mathematics classroom based on intel-

ligent games and recommendations"
- Funded by ANID: $200.000.000 CLP (USD 250,000) for 24 months

2023 – 2025 **SIA ANID 85220118**
- Role: *Director*, for the academic insertion of Assistant Prof. Waldo Gálvez (Theoretical Computer Science)
- Project: *Diseño y Análisis de Algoritmos de Aproximación para Problemas de Gestión Eficiente de Energía*
- Funded by ANID: $180.000.000 CLP (USD 210,000), three years

2022 – 2024 **SIA ANID 77210017**
- Role: *Director*, for the academic insertion of (now) Associate Prof. Alex di Genova (Bioinformatics)
- Project: *Nuevos métodos computacionales para caracterizar la arquitectura genética e impacto funcional de reordenamientos genómicos complejos en cánceres prevalentes de la población Chilena*
- Funded by ANID: $180.000.000 CLP (USD 210,000), three years

2022 – 2023 **Fondecyt Postdoctoral project 3220803** (Christopher Flores)
- Role: *Sponsor/Advisor*
- "Active learning for algorithms based on feature bags with applications in text and images"
- Funded by ANID, Ministry of Science and Technology (Chile)

2021 – 2023 **FIC-R IDI 40027312-0**: Technologies for risk management in cherry production
- Role: *Alternate Director*
- "*Transferencia y adopción de Tecnologías para la Gestión de Riesgo en el Proceso Productivo de la Cereza*"
- Program for Innovation and Competitiveness (FIC-R O'Higgins), Regional Government of the O'Higgins region: $220.000.000 CLP (USD 300,000) for two years

2020 – 2021 **STIC-AmSud project IMPRESS**: "Image Modeling and Processing for REmote SenSing in agriculture"
- Role: *Director / International Coordinator*
- In collaboration with ENS Paris-Saclay (France) and Universidad de la República (Uruguay)
- Funded by ANID, Ministry of Science and Technology (Chile): USD 6,500

2018 **Santander Universidades Grant for Faculty**
- Role: Director / Visiting Scholar
- Two-month research visit at the Robotics Lab, Universidad Politécnica de Valencia, Spain
- Title: "Intelligent and Robotic Systems for Individual Plant Monitoring in Crop Biometric Maps"

2017 **FONDEQUIP EQM170041** (Chile)
- Role: *External Coordinator*
- Equipment: Computational Systems for Deep Learning based on an NVIDIA DGX-1 Cluster
- Funded by ANID, Ministry of Science and Technology (Chile)

2011 – 2013 **FONDECYT Postdoctoral research grant 3120218** (Chile)
- Role: *Principal Investigator*; two-year project, ∼USD 80,000
- "Boosting Learning Algorithms for Multiclass Classification and Multidimensional Regression: Applications to Object Detection and Classification"
- Application ranked in the best 10% (among 200 applicants); funded by Conicyt (Chile)

2011 – 2012 **Postdoctoral research visit fellowship**, Project 74110071
- Role: *Principal Investigator*; title: "Structured Output Learning"
- *Kyushu Institute of Technology*, Japan (7 months, September 2011 – March 2012)
- BecasChile Postdoctoral program for research abroad, CONICYT-Chile

2008 **Research visit fellowship**

- Visiting researcher, Image Processing Group, *Pompeu Fabra University*, Barcelona (2 months, September–October 2008)
- Scholarship awarded by the Academic Affairs Office, Universidad de Chile

2005 – 2008 **Doctoral fellowship** (CONICYT-Chile), awarded to pursue doctoral studies

2005 – 2007 **Research visit fellowship**, Center for Mathematics and their Applications (CMLA), *École Normale Supérieure de Cachan*, France

- 18 months: October 2005 – September 2006 and March – September 2007
- Fellowship granted by the EU ALFA Network in Computer Vision

Research: Awards

2025 Scientific and Technological Development Award **"Ramón Salas Edwards"**, Instituto de Ingenieros de Chile, for our work on Precision Agriculture (together with Cristóbal Quiñinao, Luis Cossio and Jaime Varas)

2025 **Best Poster Award, PhD Category**, IEEE RAS TEP LACORO 2025. Students: Nicolas Mastropasqua and Ignacio Bugueño-Córdova. "Exploring spatial-temporal dynamics in event-based facial microexpression analysis"

2025 **Best Poster Award, MSc Category**, IEEE RAS TEP LACORO 2025. Student: Ariel Zuñiga. "3D Cherries Reconstruction using Photometric Stereo and Implicit Neural Networks"

2025 **2nd place**, IEEE RAS ICRA 2025 LA@Chile Satellite Poster Competition. Student: Ariel Zuñiga. "3D Cherry Reconstruction using Implicit Methods and Photometric Stereo"

2024 **Best Poster Award, Master Student Category**, Latin-American Summer School in Robotics (LACORO 2024), Chile. Students: Nicolas Araya and Ariel Zuñiga. "3D reconstruction of cherry trees and fruits using implicit neural models"

2022 **2nd place**, X Meeting of Women in Computing (ChileWiC), Santiago, Chile. Student: Camila Rapu. "Predicting microRNAs with high accuracy using machine learning algorithms"

2008 **RoboCup @Home 2008 Innovation Award**, Universidad de Chile. Member of the development team. The award honors outstanding technical and scientific achievements and applicable solutions in the RoboCup @Home league

2007 **RoboCup @Home 2007 Innovation Award**, Universidad de Chile. Member of the development team

2007 **1st place, IEEE RAS Poster Competition**, LA Summer School on Robotics, Chile. "Detection of AIBO and Humanoid Robots using Boosted Cascades" (joint work with Matías Arenas)

Event Organization: Competitive Grants, Awards and Projects

2025 **IEEE RAS TEP International Summer School on Robotics / 4th Latin American Summer School on Robotics (LACORO 2025)**. Role: *General Chair* (with Nicolás Navarro-Guerrero). Funded by the IEEE Robotics and Automation Society Education Program: USD 25,000

2025 **KHIPUx Grant**. Role: *General Chair* (with Nicolás Navarro-Guerrero). Support for organizing the Latin American Summer School on Robotics (December 2025): USD 500. (KHIPUx: funding opportunities for promoting AI research in Latin America)

2025 **IEEE RAS ICRA@LA Chile Satellite 2025**. Role: *Program Chair*. Funded by the IEEE Robotics and Automation Society Education Program: USD 25,000

2024 **IEEE CIS Summer School Grant**. Role: *General Chair* (with Nicolás Navarro-Guerrero). Support for the 3rd Latin American Summer School on Robotics (December 2024): USD 4,000

2024 **KHIPUx Grant**. Role: *General Chair* (with Nicolás Navarro-Guerrero). Support for the 3rd Latin American Summer School on Robotics (December 2024): USD 2,000

2024 **AIJ (Artificial Intelligence Journal) Grant**. Role: *General Chair* (with Nicolás

Navarro-Guerrero). Support for the 3rd Latin American Summer School on Robotics (December 2024): USD 3,000

2021 **First Chile-Japan Symposium on Field Robotics**. Role: *General Chair*. Funded by The Japan Foundation (2019RE047; REF No. 10120116): USD 8,700

2019 **IEEE RAS International Summer School on Deep Learning for Robot Vision**. Role: *General Chair* (with Javier Ruiz-del-Solar). Funded by the IEEE Robotics and Automation Society Education Program: USD 25,000

Outreach: Competitive Grants, Awards and Projects

2023 – 2024 **PAR Explora O'Higgins**, Chile. *Director*. Funded by the Ministry of Science and Technology: $290.000.000 CLP (USD 340,000) per year

2023 **FECI Science Festival O'Higgins**, Chile. *Director* (granted; direction transferred to Prof. Laura Becerril). Funded by the Ministry of Science and Technology: $85.000.000 CLP (USD 100,000)

2023 **Proyecto distribución de productos de divulgación CP23-P028**. *Director*. Project "*Itinerancia Audiovisual Interactivo Agua y Territorio*". Concurso Nacional Ciencia Pública 2023, Ministry of Science and Technology: USD 15,000

2023 **Proyecto distribución de productos de divulgación CP23-P035**. *Director*. Project "*Aplicación móvil "Muévete Sin Plásticos""*. Concurso Nacional Ciencia Pública 2023, Ministry of Science and Technology: USD 15,000

2019 – 2023 **PAR Explora O'Higgins**, Chile. *Director*. Funded by the Ministry of Science and Technology: $200.000.000 CLP (USD 275,000) per year

Academic Activities & Services

Journal Committees

2024 – present Applied Soft Computing (ASOC), Elsevier: **Editorial Board**

2023 – present Frontiers in Robotics and AI: **Associate Editor**

2017 – present MDPI Information: **Editorial Board**

2018 – 2024 MDPI Sci: **Advisory Board**

2015 – 2022 Frontiers in Robotics and AI (specialty section on Computer Vision): **Associate Editor**

2015 – 2016 *Human Safety and Comfort in Human-Robot Shared Workspaces*, Frontiers in Robotics and AI: **Research Topic Co-editor**

Event Organization Committees

2026 35th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN 2026), Kitakyushu, Japan, August 2026: **Inclusion Chair**

2025 4th Latin American Summer School on Cognitive Robotics (LACORO 2025): **General Chair** (jointly with Nicolás Navarro-Guerrero)

2025 IEEE RAS ICRA 2025 LA@Chile Satellite, May 2025: **Program Chair**

2024 – present Latin American Summer School on Cognitive Robotics (LACORO): **Directive Board Member**

2024 3rd Latin American Summer School on Cognitive Robotics (LACORO 2024): **General Chair** (jointly with Nicolás Navarro-Guerrero)

2022 4th International Symposium on Intelligent Computing Systems (ISICS 2022): **Scientific Advisory Committee**

2021 First Japan-Chile Symposium on Field Robotics, Rancagua, Chile, December: **General Chair** (funded by the Japan Foundation)

2019 IEEE RAS Summer School on Deep Learning for Robot Vision, Santiago, Chile, De-

	cember: **General Chair** (jointly with J. Ruiz del Solar, Universidad de Chile)
2012	IEEE RAS Summer School on Robot Vision and Applications, Santiago, Chile, December: **General Co-chair**
2009	World Conference on Soft Computing (WSC), online conference: **Web Chair**

Journal Article Reviewer

2026	IEEE Transactions on Robotics (T-RO)
2025	IEEE Robotics and Automation Letters (RA-L); IEEE Transactions on Robotics (T-RO)
2024	Engineering Applications of Artificial Intelligence (Elsevier); IEEE Transactions on Robotics (T-RO); IEEE Robotics and Automation Letters (RA-L)
2022	Computers and Electronics in Agriculture (COMPAG), Elsevier; PLOS ONE
2021	Biosystems Engineering (Elsevier); IEEE Transactions on Cognitive and Developmental Systems (TCDS)
2020	IEEE Transactions on Industrial Informatics (TII)
2018	IEEE Transactions on Industrial Informatics (TII)
2017	Energies (MDPI); IEEE Transactions on Cognitive and Developmental Systems (TCDS); IEEE Transactions on Systems, Man, and Cybernetics: Systems (SMCA)
2016	IEICE Transactions on Information and Systems; Sustainability (MDPI); Journal of Visual Communication and Image Representation (JVCI); IEEE Transactions on Automatic Control; Information (MDPI); Sensors (MDPI)
2015	Journal of Human-Robot Interaction (JHRI); IEEE Transactions on Affective Computing (TAC); Multimedia Systems Journal (Elsevier)
2014 – 2015	Advanced Robotics (AR)
2013	IEEE Transactions on Autonomous Mental Development (TAMD)
2012	IEEE Transactions on Systems, Man, and Cybernetics, Part A (SMC-A)
2012 – 2016	International Journal of Advanced Robotic Systems (IJARS)
2010, 2014, 2016	Journal of Intelligent and Robotic Systems (JINT/JIRS)
2011 – 2018	Applied Soft Computing (ASOC)
2009 – 2011	Computers and Electrical Engineering (COMPELECENG)
2010	Simulation Modelling Practice and Theory (SIMPAT)
2009	International Journal of Computer Vision (IJCV)
2007 – 2008	Machine Vision and Applications (MVA)
2007	Image and Vision Computing (IMAVIS)
2006 – 2007	IEE Proceedings – Vision, Image and Signal Processing
2005, 2012	International Journal of Hybrid Intelligent Systems (IJHIS)
2005	International Journal of Computational Intelligence Research (IJCIR)

Conference Program Committee

2027	International Conference on Computer Vision Theory and Applications (VISAPP)
2026	Third International Workshop on Applications of CV and HPC in Agriculture (HARVEST-India'26), co-located with the 33rd IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC 2026), 16–19 December 2026, Bengaluru, India
2026	HARVEST-Vision: Second International Workshop on Applications of CV and HPC in Agriculture, WACV
2026	International Conference on Computer Vision Theory and Applications (VISAPP)
2025	International Conference on Computer Vision Theory and Applications (VISAPP)
2024	International Symposium on Intelligent Computing Systems (ISICS)
2024	International Conference on Computer Vision Theory and Applications (VISAPP)
2024	21st International Conference on Smart Technologies & Education (STE 2024)
2023	International Conference on Computer Vision Theory and Applications (VISAPP)
2022	International Conference on Computer Vision Theory and Applications (VISAPP)
2021	International Symposium on Intelligent Computing Systems (ISICS)
2020	Latin American Computing Conference (CLEI)
2018	Ibero-American Conference on Artificial Intelligence (IBERAMIA)
2016	IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

2016 Ibero-American Conference on Artificial Intelligence (IBERAMIA)
2013 International Conference on Advanced Robotics (ICAR)
2013 Latin American Computing Conference (CLEI)
2012 Intelligent Networking and Collaborative Systems (INCoS)
2012 International Workshop on Human Behaviour Understanding (HBU)
2010 Hybrid Intelligent Systems (HIS)
2009 International Conference on Emerging Trends in Engineering & Technology (ICETET)
2007 Pacific-Rim Symposium on Image and Video Technology (PSIVT)

Conference Paper Reviewer

2024 Ibero-American Conference on Artificial Intelligence (IBERAMIA)
2022 International Conference on Pattern Recognition (ICPR)
2018 IEEE International Conference on Industrial Technology (IEEE ICIT)
2017 IEEE Conference on Decision and Control (CDC)
2014 IEEE International Conference on Smart Grid Communications (SmartGridComm)
2014 European Control Conference (ECC)
2014 International Workshop on Information Network Design (WIND)
2013 Latin American Theoretical INformatics Symposium (LATIN)
2013 ACM/IEEE International Conference on Human-Robot Interaction (HRI)
2012 IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)
2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
2010 International Symposium on Neural Networks (ISNN)
2009 Online World Conference on Soft Computing in Industrial Applications (WSC 15)
2009 Image and Vision Computing New Zealand (IVCNZ)
2006 German Pattern Recognition Conference (DAGM)
2005 String Processing and Information Retrieval (SPIRE)
2005 Latin American Web Congress (LA-WEB)

Project Proposal Reviewer

2025 Fondecyt Regular (Chile)
2025 Fondecyt Postdoctoral (Chile)
2025 Fondo María Viñas 2025, Agencia Nacional de Investigación e Innovación de Uruguay (ANII)
2024 Comisión de Investigación Científica (CSIC), Universidad de la República (UdelaR), Uruguay
2020 FONCyT (Argentina) projects for Investigación Científica y Tecnológica
2019 Fondecyt Iniciación projects (Chile)
2017 CORFO (Chile) projects for Innovation in Industry
2016 Three CORFO (Chile) projects in the program for competitiveness in industry
2015 One INNOVA CORFO (Chile) project in the program for strategic public goods for competitiveness (funding up to ∼USD 300,000)
2012 Three INNOVA CORFO (Chile) Line-2 projects (research and development projects with funding up to ∼USD 350,000)

Teaching Activities

Lectures (undergraduate and graduate programs)

2026 Deep Learning (1 semester), Universidad de Chile, Chile
2026 Optimization (1 semester), Universidad Técnica Federico Santa María, Chile
2025 Software System Programming; Introduction to Programming; Computer Vision (1 semester each), Universidad de O'Higgins, Chile
2023 Machine Learning (master course); Software System Programming; Data Mining (1 semester each), Universidad de O'Higgins, Chile
2022 Machine Learning (master course); Data Mining (1 semester each), Universidad de

O'Higgins, Chile

2021 Software System Programming; Data Mining (1 semester each), Universidad de O'Higgins, Chile

2020 Software System Programming; Robotics; Data Mining (1 semester each), Universidad de O'Higgins, Chile

2019 Computer Architecture; Software System Programming; Programming Languages; Digital Design and Applications (1 semester each), Universidad de O'Higgins, Chile

2018 Software System Programming; Introduction to Programming; Algorithms and Data Structures; Digital Design and Applications (1 semester each), Universidad de O'Higgins, Chile

Lectures (others)

2019 – 2024 Artificial Intelligence in Robotics course, Artificial Intelligence Graduate Diploma, Universidad de Chile, Chile (taught every year 2019–2024)

2022 Introduction to Programming and Robotics for High School Students (1 month), Universidad de O'Higgins, Chile

Teaching Assistant

2008 Advanced Image Processing (1 semester), Universidad de Chile, Chile

2001 Information Processing Systems (1 semester), Universidad de Chile, Chile

1999 – 2001 Networks Analysis (3 semesters), Universidad de Chile, Chile

Postdoc / Researcher Supervision & Sponsoring

2025 – 2026 Edgardo Ramírez (UOH Postdoc)

2024 – 2026 Rohit Singla (UOH Postdoc); now Assistant Professor, University of Wisconsin–Eau Claire

2024 – 2026 Robert Guaman (FONDECYT Postdoc); now Assistant Professor, Universidad Católica del Norte, Chile

2022 – 2023 Robert Guaman (UOH Postdoc)

2022 – 2023 Carol Moraga (UOH Researcher); now Assistant Professor, Universidad de O'Higgins, Chile

2022 Carol Moraga (UOH Postdoc)

2022 – 2023 Christopher Flores (FONDECYT Postdoc); now Assistant Professor, Universidad del Biobío, Chile

2021 Christopher Flores (UOH Postdoc)

Academic Sponsoring (funded projects for attraction and insertion into academia)

2023 – 2025 Waldo Gálvez (SIA-ANID, UOH Assistant Prof.)

2022 – 2024 Alex di Genova (SIA-ANID, UOH Associate Prof.)

2021 – 2022 Tania Villaseñor (PAI-ANID, UOH Assistant Prof.)

2021 – 2022 Diego Muñoz (PAI-ANID, UOH Assistant Prof.)

Doctoral Thesis Supervisor & Co-supervisor

2026 – present Co-supervisor (informal), *Universidad Técnica Federico Santa María*, Chile
- 2026 – 2030: Miguel Rojas

2025 – present Co-supervisor (informal), *Universidad de Chile*, Chile
- 2025 – 2029: Luis Cossio

2010 – 2013 Co-supervisor (informal), *Universidad de Chile*, Chile
- José Delpiano (now at Universidad de los Andes, Chile)
- Mauricio Correa (now at AMTC, Universidad de Chile)
- Gabriel Hermosilla (now at Pontificia Universidad Católica de Valparaíso, Chile)

Master Thesis Supervisor & Co-supervisor

2024 – present Supervisor, *Universidad de O'Higgins*, Chile
- 2025: Nicolás Araya (Electrical Engineering) – ongoing
- 2025: Ariel Zuñiga (Electrical Engineering) – ongoing

2021 – 2025 Co-supervisor, *Universidad de Chile*, Chile
- 2021 – 2025: José Astorga (Master in Computer Engineering)
- 2022 – 2024: Ignacio Bugueño (Master in Electrical Engineering)
- 2021 – 2023: Luis Cossio (Master in Electrical Engineering)

2021 Co-supervisor (informal), *Universidad de Chile*, Chile
- Braulio Mellado (Master in Business Intelligence)

2014 – 2017 Co-supervisor (informal) of bachelor and master-level theses, *Kyoto University*, Japan
- 2016 – 2017: Zhe Chen (Master/PhD student)
- 2016 – 2017: Chihiro Nakatsuka (Master student)
- 2016 – 2017: Li Li (Master student)
- 2015 – 2016: Tatsuya Suzuki (B.Sc. and Master student)

2007 – 2009 Co-supervisor of 3 master-level theses, *Universidad de Chile*, Chile
- 2009: Matías Arenas (last seen at Groupon, USA)
- 2008: Oscar Sanhueza (last seen at JOT Automation, Finland)
- 2007: Hardy Franke (last seen at Atlas Copco)

Engineering Thesis Supervisor & Co-supervisor

2026 – present *Universidad de Chile*, Chile
- Samuel Bugueño (Electrical Engineering)

2026 – present *Universidad Técnica Federico Santa María*, Chile
- Javiera Bobadilla (Computer Engineering)
- Flavio Oyarce (Computer Engineering)
- Walter Sanhueza (Computer Engineering)

2022 – 2026 *Universidad de O'Higgins*, Chile
- 2026: Hernán Zamorano (Computer Engineering), co-supervisor
- 2026: Nicolás Muñoz (Computer Engineering)
- 2026: Tomás Pérez (Electrical Engineering)
- 2025: Ariel Valenzuela (Electrical Engineering)
- 2025: Matías Pastene (Computer Engineering)
- 2025: Luis Miranda (Computer Engineering)
- 2025: Fabián Valderrama (Industrial Engineering)
- 2023: Felipe Gómez (Computer Engineering)
- 2023: Ignacio Vásquez (Electrical Engineering)
- 2023: Hernán Moreno (Computer Engineering)
- 2023: Daniel Gómez (Electrical Engineering)
- 2022: Patricio Fernández (Computer Engineering)
- 2022: Cristopher Sandoval (Computer Engineering)

Doctoral Thesis Reviewing Committees

Aug 2026 Mercedes Marzoa, *Universidad de la República*, Uruguay
Jan 2026 Ismail Parewai, *Kyushu Institute of Technology*, Japan
Oct 2024 Ahmed Ben Saad, *ENS Paris-Saclay*, France
Aug 2024 Mercedes Marzoa, *Universidad de la República*, Uruguay (intermediate review)
Jan 2024 Mantau Aprinaldi Bin Jasa, *Kyushu Institute of Technology*, Japan

Master Thesis Reviewing Committees

2026 Gonzalo Olguín (Electrical Engineering), *Universidad de Chile*, Chile
2025 Fernanda Borja (Electrical Engineering), *Universidad de Chile*, Chile
2025 Carlos Rosel (Electrical Engineering), *Universidad de O'Higgins*, Chile
2024 José Dias Villa (Data Science), *Universidad de Chile*, Chile
2024 Roberto Araya (Computer Engineering), *Universidad de Chile*, Chile
2021 Braulio Mellado (Business Intelligence), *Universidad de Chile*, Chile
2019 Bastián Salinas (Business Intelligence); Francisco Arriola (Business Intelligence); Pedro Orel-

lana (Electrical Engineering), *Universidad de Chile*, Chile

2018 Maximiliano Rojas (Industrial Engineering), *Universidad de Chile*, Chile

2011 – 2012 External reviewer of 3 master theses, *Gjøvik College University*, Norway

Engineering Thesis Reviewing Committees

2026 Andrés Riveros; Tomás Carmona (Informatics Engineering), *Universidad Técnica Federico Santa María*, Chile

2024 Bayron Pérez (Computer Engineering), *Universidad de O'Higgins*, Chile

2023 Rodrigo Gonzáles (Geological Engineering), *Universidad de O'Higgins*, Chile

2022 Felipe Olivares (Industrial Engineering), *Universidad de O'Higgins*, Chile

2020 Paulo Morales (Electrical Engineering), *Universidad de los Andes*, Chile

External Reviewer and Project Supervision

2011 – 2016 External reviewer, Pattern Recognition lecture, Gjøvik College University, Norway

2005 – 2013 Supervision of several student projects for the Computer Vision and Robot Vision lectures, Universidad de Chile, Chile

Other Institutional Service

2026 – 2027 Vice-Chair, IEEE RAS Chile Centro

2022 – 2026 Institutional (UOH) coordinator, SEDA initiative (*Soluciones Energéticas Descentralizadas*)

2022 – 2026 Institutional (UOH) coordinator, National Supercomputer Laboratory

2021 – 2022 Member of the commission that created the new *Master in Engineering Sciences*, Universidad de O'Higgins

2018 Member of the commission that created the new undergraduate program *Mathematical Data Modeling Engineer*, Universidad de O'Higgins

Other Project Participation

(applied research, technology transfer, outreach, etc.)

At Universidad de O'Higgins, Chile

2023 **Nodo CTCI MZSC** (Open Science Node). Role: University Representative. Funded by ANID. Co-creation of an Open Science model to strengthen the development of science and technology in the South Central Macro-zone of Chile in accordance with its territory and society

2022 – 2023 **Red Cultural y Científica para la región de O'Higgins**, ADAIN project (Ministry of Education). Role: Scientific Network Coordinator

2021 – 2023 **Museo del Agua**, ADAIN project (Ministry of Education). Role: Outreach Coordinator

2023 **Museo del Agua Trail**, Public Space – Ciencia Pública project (Ministry of Science). Role: Outreach Coordinator

2020 – 2022 **Nodo CTCI MZSC** (Open Science Node). Role: University Representative. Funded by ANID

At Kyoto University, Japan

2017 – 2018 **Image-based PV prediction**, Kakenhi project 17H01922. Collaborator

2015 – 2018 **Aqua Vision project**, Kakenhi project on underwater computer vision. Design and development of a real-time 3D fish detection and tracking system

2013 – 2017 **i-Energy collaboration projects with industry**. Research on i-Energy related technologies funded by industry, in collaboration with several companies (NEC, Panasonic, etc.). Main topics: coordinated energy management, battery management,

and pattern recognition problems related to energy management

2013 – 2015 **i-Energy**: construction and demonstration of a community nano-grid based on "i-energy" (CREST Project, Japan). Research on community-coordinated energy management

At Universidad de Chile, Chile

2010 – 2011 **ETHICAL project**. FP7 project of the European Commission "Promoting International Debate on Ethical Implications of Data Collection, Use and Retention for Biometric and Medical Applications". Member of the Universidad de Chile working group (attended project meetings, in charge of one of the deliverables)

2006 – 2013 **Bender Humanoid Robot**. Development of several computer vision modules for Bender, a humanoid robot developed at Universidad de Chile, which received the RoboCup@Home Innovation Award in 2007 and 2008

2005 – 2006 **FaceQS-Tool**. Design and development of a face detector, an eye detector, and a pose estimator. Software **licensed** to the Fraunhofer-IPK Institute, Berlin, and to the German Federal Printing Office for their e-passport production system. Research and development done at Universidad de Chile

2004 **Webfaces project**, Center for Web Research, Universidad de Chile. Development of several modules, including face detection, face recognition, skin detection, and face alignment

Presentations

Invited, Tutorial and Workshop Presentations

2026 Invited speaker, "Event-Based and 3D Computer Vision, with Applications to Face Expression Recognition and Precision Agriculture", RAS Week LATAM 2026

2026 Tutorial: "Face and gesture recognition using event-based cameras", 20th IEEE International Conference on Automatic Face and Gesture Recognition

2026 Invited speaker, "*Avances recientes en Inteligencia Artificial & Ejemplos de aplicación en Agricultura de precisión*", Congreso Futuro, O'Higgins, Chile, January 2026

2025 Panel speaker, "*Desafíos del uso de la inteligencia artificial en el agro sin pausas en el camino*", Expo Chile Agrícola, Santiago, Chile, November 2025

2025 Invited speaker, "*Panorama Agroclimático Estacional otoño–invierno 2025: Tecnologías para reducir los riesgos en el agro*", Santiago, Chile, May 2025

2025 Keynote, IEEE RAS ICRA 2025 LA@Chile Satellite, Santiago, Chile, May 2025

2025 Invited speaker, "*Smart City: Seguridad Pública, Inteligencia Artificial, Electromovilidad y Eficiencia Energética*", Rancagua, Chile, May 2025

2025 Invited spotlight speaker, KHIPU, Santiago, Chile, March 2025

2024 Speaker, LACORO, Rancagua, Chile, December 2024

2024 Invited keynote speaker, Workshop on AI in Cyber Physical Systems, IBERAMIA, Montevideo, Uruguay, November 2024

2023 Invited speaker, Brain and Systems Lecture Seminar, Kyushu Institute of Technology, Japan, June 2023

2023 Invited speaker, AI Seminar, Leibniz University Hannover, Germany, February 2023

2023 Invited speaker, Computer Vision Seminar, Fraunhofer IPK, Berlin, Germany, February 2023

2023 Invited speaker, Environmental Monitoring Workshop, Rhine-Waal University of Applied Sciences, Germany, February 2023

2023 Invited keynote speaker, Biobio Intelligent Robotics Summit, Concepción, Chile, January 2023

2022 Invited speaker, Chile-Japan Academic Forum, Puerto Varas, Chile, November 2022

2021 Invited speaker, Webinar in Innovation and Technology applied to Fruitculture and Horticulture, online, organized by the Embassy of Chile in Japan

2020 Tutorial: "Introduction to face and gesture recognition using event-based cameras", 15th IEEE International Conference on Automatic Face and Gesture Recognition

2020 Invited speaker, "Photovoltaic prediction from sky image sequences", IEEE RAS Student Chapter Webinar, Universidad de San Carlos de Guatemala, May 2020

2019 Invited speaker, "Deep Photovoltaic Prediction", IEEE RAS Summer School on Deep Learning for Robot Vision, Santiago, Chile, December 2019

2018 Invited speaker, "Sub-minute photovoltaic power generation prediction from sky image sequences", IEDE Workshop "Eco-Industrial Development as a Development Strategy for Chile", Santiago, Chile, 23–24 November 2018

2018 Invited speaker, "Coordination, Vision and Learning problems in Energy Management Systems", DATO seminar, University of O'Higgins, Chile, 16 November 2018

2018 Invited speaker, "*Visión por Computadora, Aprendizaje de Máquinas, y Coordinación: Aplicaciones en Robótica y Manejo de Energía*", CEAF, Chile, 12 November 2018

2018 Invited speaker, "Subminute Daytime Sky Image Model and Prediction", Third Chile-Japan Academic Forum, Nikko, Japan, 27 September 2018

2018 "*Predicción de generación de energía solar con imágenes del cielo*", Santiago Machine Learning Meetup, Santiago, Chile, 24 July 2018

2017 "Daytime Sky Image Model and Prediction", poster, MIRU conference, Japan, August 2017

2017 "Advances on Coordinated Energy Management in Prosumer Communities", oral presentation, Energy7 Symposium, Manchester, UK, August 2017

2016 "Real-time 3D fish detection and tracking", poster, MIRU conference, Japan, August 2016

2016 "Towards Real-time 3D fish detection and tracking", invited presentation, Underwater Computer Vision Workshop, Japan, September 2016

2016 Invited panelist and speaker, "Future of Electricity Utilities Project", Hong Kong, March 2016 (organized by the Royal Institute of International Affairs, Chatham House)

2015 "A cooperative distributed protocol for coordinated energy management in prosumer communities", Singapore-Japan Joint Workshop on Ambient Intelligence and Sensor Networks (ASN), Singapore, December 2015

2015 "Coordinated energy management for prosumer communities", invited presentation, Advanced Mining Technology Center (AMTC), Universidad de Chile, May 2015

2013 "Multiclass Weak Classifiers in Boosted-Cascade Based Object Detection", ICML Workshop on Learning with Test-Time Budgets, Atlanta, USA

2013 "Object detection using multiclass coarse-to-fine boosted classifiers", invited presentation, Laboratory for Scientific Image Analysis (SCIAN), Universidad de Chile, May 2013

2013 Invited presentation, Xerox Research Centre Europe (XRCE), Grenoble, France, February 2013

2012 "Efficient object detection", tutorial, IEEE RAS Summer School on Robot Vision, Santiago, Chile, December 2012

2011 Invited presentation, Kyushu Institute of Technology, Japan

2010 "Multiclass object detection", tutorial, IEEE LA-RAS Summer School, Santiago, Chile, December 2010

2010 Invited presentation, Department of Computer Science, Pontificia Universidad Católica de Chile (PUC), Santiago, March 2010

2009 Invited presentation, Kyushu Institute of Technology, Japan

2008 Invited presentation, Image Processing Group, Pompeu Fabra University, Barcelona, October 2008

2008 Workshop presentation, Universidad Técnica Federico Santa María (UTFSM), Valparaíso, Chile, September 2008

2008 Workshop presentation, ALFA Workshop on Computer Foundations and Applications, Paris, France, March 2008

2007 Workshop presentation, School on Neuromathematics of Vision, Pisa, Italy

2006 "Face detection", tutorial with Prof. Javier Ruiz-del-Solar, IEEE LA-RAS Summer School, Santiago, Chile, December 2006

2004 "Face detection", tutorial with Prof. Javier Ruiz-del-Solar, IEEE LA-RAS Summer School, Santiago, Chile, December 2004

Presentations at Peer-Reviewed Conferences

2024 ICAIIC, Osaka, Japan (oral)

2023 ICIET, Fujisawa, Japan (oral)

2014	IEEE SmartGridComm, Venice, Italy (oral)
2014	European Control Conference (ECC), Strasbourg, France (oral)
2012	ECCV Workshop on Benchmarking Facial Image Analysis Technologies (BeFIT), Florence, Italy (oral)
2012	International Symposium on Visual Computing, Crete, Greece (oral)
2010	International Conference on Pattern Recognition (ICPR), Istanbul, Turkey (poster)
2008	ECCV Workshop on Faces in Real-Life Images, Marseille, France (oral)
2006	ECCV Workshop on Computer Vision Based Analysis in Sport Environments, Graz, Austria, May (poster)
2004	International Conference on Image Processing (ICIP), Singapore (poster)
2003	International Conference on Image Analysis and Processing (ICIAP), Mantova, Italy (poster)

Invited Visits

2024	Visiting Professor, ENS Paris-Saclay, France (8 weeks, October–December 2024)
2024	Short visit, Universidad de la República, Uruguay (1 week, November 2024)
2024	Visiting Researcher, Kyushu Institute of Technology, Japan (7 months, February–October 2024)
2024	Visiting Professor, Kyoto Institute of Technology (KIT), Japan (2 months, July and September 2024)
2023	Invited Researcher, L3S Center, Leibniz University Hannover, Germany (3 days, November 2023)
2023	Invited Researcher, L3S Center, Leibniz University Hannover, Germany (5 days, February 2023)
2021 – 2022	Visiting Researcher, ENS Paris-Saclay (2 weeks, December 2021; 4 weeks, January–February 2022); Invited Researcher, University of Southern Denmark (3 days, February 2022)
2019	Invited Researcher to various institutions in Tokyo, Japan, as part of the PAEE project of the Chilean Embassy (1 week, July 2019); purpose: learn about smart agriculture in Japan
2018 – 2019	Visiting Researcher, Universidad Politécnica de Valencia, Spain (3 months, December 2018–February 2019); collaboration on robotics in agriculture
2019	Invited Researcher, Kyoto University (1 month in February 2019 and 1 month in July 2019); funding: KAKENHI project
2018	Invited Researcher, Advanced Mining Technology Center, Universidad de Chile (2 weeks); funding: FONDECYT project
2015	Invited Researcher, Advanced Mining Technology Center, Universidad de Chile (2 weeks); funding: FONDECYT project

Organized Activities and Outreach

2018 – 2021	Co-organizer of round tables on Chilean challenges and development in robotics, together with the Library of the Chilean Parliament and the Chile-Japan Interparliamentary Group
2018	Participation / coordination of Universidad de O'Higgins activities in Japan (Chile-Japan Academic Forum; visits to NARO, Hokkaido University and Kyoto University)
2018	Participation / coordination of activities of the Rector of O'Higgins University in Japan, as part of the official visit of the Chilean President to Japan

Participation in Round Tables / Working Groups

2023	MESA IA – Comisión Desafíos del Futuro, Senado – (3) Educación y Talentos, Chilean Congress
2022	Macrozonal table "*El Futuro de la Democracia y la Inteligencia Artificial*" for the update of the national Artificial Intelligence policy
2021	Regional table for the creation of the national Artificial Intelligence policy
2020	Participation in the update of the national Energy policy

Participation in Thematic Events

2023	Jornadas Macrozonales REC (Red, Estrategia y Conocimiento), ANID, Concepción, Chile (2 November); Foro para la ética de la Inteligencia Artificial en América Latina y el Caribe, Santiago, Chile (24 October)
2017	IROS 2017, Vancouver, Canada
2014 – 2016	TEDxKyoto, Kyoto, Japan (2014 attendee; 2015 Photography Team; 2016 Communication / Photography Team)
2014 – 2015	Kyoto University – Inamori Foundation Joint Kyoto Prize Symposium, Kyoto, Japan (2014 and 2015)
2015	Kyoto University Academic Day, Kyoto, Japan (open event for promoting research with the general public)
2011	Intensive Japanese classes, Genki Jacks Japanese Language School, Fukuoka, Japan (2 months)
2008	6th Summer School on Complex Systems, Valparaíso, Chile
2006 – 2013	Co-organizer of the computer vision seminar, Universidad de Chile (2006–2009 and 2011–2013)
2006	Vision by Brains and Machines (VBM) introductory courses and symposium, Montevideo, Uruguay
2006	Mathematical Foundations of Learning Theory Conference, École Normale Supérieure (ENS), Paris, France
1997 – 2002	Member of the University Basketball team, Universidad de Chile

Societies & Memberships

- Vice-President, IEEE RAS Chile (2026)
- IEEE (Institute of Electrical and Electronics Engineers): member since 1999, Senior Member since 2025
- IEEE Robotics and Automation Society (RAS), IEEE Computational Intelligence Society (CIS), Association for Computing Machinery (ACM), Computer Vision Foundation (CVF): member
- IEEE RAS Technical Committee on Computer and Robot Vision
- IEEE RAS Technical Committee on Multi-Robot Systems
- IEEE Technical Committee on Pattern Analysis and Machine Intelligence (TCPAMI)
- IEEE RAS Agricultural Robotics and Automation Technical Committee (TCAGRA)
- ACM Emerging Interest Group on Energy

Languages

Spanish	native
English	fluent
Japanese	intermediate for spoken communication (listening and speaking); basic for written communication (reading and writing)
French	intermediate (not used lately)
German	basic-intermediate (not used lately)

Skills

Programming	Proficient in C and Go. Familiar with Python, Java, C++, Bash/Awk and OpenMP. Basic knowledge of PHP
Versioning	Familiar with Git and Subversion (SVN)
Data analysis	Familiar with Matlab, WEKA, Gnuplot and R
Operating systems	Experienced with GNU/Linux and macOS. Familiar with Windows
Publishing	Experienced with LaTeX

Publication List

A full list (with PDFs and links) is available at rodrigo.verschae.org/pub and on the Google Scholar profile. (WoS = Web of Science; Q = journal quartile; IF = impact factor as recorded by the author.)

Journal Publications (WoS)

2026

[J26] Fernanda Borja, Jaime Aranda Cubillo, Ignacio Bugueno-Cordova, **Rodrigo Verschae**, Pablo Palacios Jativa, David Zabala-Blanco, and Cesar Azurdia-Meza. "Design and Implementation of a Feedback-Aware MISO Optical Camera Communication System Using an Event Camera". *IEEE Photonics Technology Letters*, 2026, doi:10.1109/LPT.2026.3692381. (WoS, Q2, IF 2.5)

[J25] **Rodrigo Verschae**, Ignacio Bugueno. "evTransFER: A Transfer Learning Framework for Event-based Facial Expression Recognition". *Neurocomputing*, vol. 2071, 2026, doi:10.1016/j.neucom.2026.132641. (WoS, Q1, IF 6.4)

2025

[J24] Rohit Singla, **Rodrigo Verschae**, Harish Parthasarathy. "Large Deviation-Based Noise Mitigation in Coupled Quantum Robotic Systems". *Quantum Information Processing*, 24, 358, 2025, doi:10.1007/s11128-025-04982-5. (WoS, Q2, IF 2.2)

[J23] Luis Cossio, Cristobal Quininao, **Rodrigo Verschae**. "Orchard Sweet Cherry Color Distribution Estimation from Wireless Sensor Networks and Video-based Fruit Detection". *Computers and Electronics in Agriculture*, 2025. (WoS, Q1, IF 7.7)

[J22] Robert Guaman, Jose Delpiano, **Rodrigo Verschae**. "Event-based optical flow: method categorisation and review of techniques that leverage deep learning". *Neurocomputing*, 2025, https://www.sciencedirect.com/science/article/abs/pii/S0925231225005715. (WoS, Q1, IF 6.4)

2024

[J21] Rohit Singla, **Rodrigo Verschae**, Stefan Escaida, Harish Parthasarathy. "Estimating time-varying delays and parametric uncertainties in teleoperated robots". *Nonlinear Dynamics*, 2024, doi:10.1007/s11071-024-10602-1. (WoS, Q1, IF 5.2)

[J20] Luis Cossio, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Cherry CO Dataset: a dataset for cherry detection, segmentation and maturity recognition". *IEEE Robotics and Automation Letters*, 2024, doi:10.1109/LRA.2024.3393214. (WoS, Q1, IF 5.2)

2023

[J19] **Rodrigo Verschae**, Ignacio Bugueno. "Event-based Gesture and Facial Expression Recognition: A Comparative Analysis". *IEEE Access*, vol. 11, pp. 121269–121283, 2023, doi:10.1109/ACCESS.2023.3328220. (WoS, Q1, IF 3.4)

[J18] Guillermo Gil, Daniel Casagrande, Leonardo P. Cortés, **Rodrigo Verschae**. "Why the low adoption of robotics in the farms? Challenges for the establishment of commercial agricultural robots". *Smart Agricultural Technology*, 3:100069, 2023, doi:10.1016/j.atech.2022.100069. (WoS, Q1, IF 6.3)

Before 2023

[J17] Jinsong Zhang, **Rodrigo Verschae**, Shohei Nobuhara, Jean-François Lalonde. "Deep photovoltaic nowcasting". *Solar Energy*, vol. 176, pp. 267–276, 2018, doi:10.1016/j.solener.2018.10.024. (WoS, Q1, IF 6.7)

[J16] **Rodrigo Verschae**, Takekazu Kato, Takashi Matsuyama. "Energy Management in Prosumer Communities: A Coordinated Approach". *Energies*, 9(7):562, 2016. (WoS, Q1, IF 3.0)

[J15] Jose Delpiano, Luis Pizarro, **Rodrigo Verschae**, Javier Ruiz-del-Solar. "Multi-objective optimization for parameter selection and characterization of optical flow methods". *Applied Soft Computing*, vol. 46, pp. 1067–1078, September 2016, doi:10.1016/j.asoc.2016.01.037. (WoS, Q1, IF 7.2)

[J14] **Rodrigo Verschae**, Hiroaki Kawashima, Takekazu Kato, Takashi Matsuyama. "Coordinated energy management for inter-community imbalance minimization". *Renewable Energy*, vol. 87, part 2, pp. 922–935, March 2016. (WoS, Q1, IF 9.0)

[J13] Mauricio Correa, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "A realistic virtual environment for evaluating face analysis systems under dynamic conditions". *Pattern Recognition*, vol. 52, pp. 160–173, 2016. (WoS, Q1, IF 7.5)

[J12] **Rodrigo Verschae**, Javier Ruiz-del-Solar. "Object Detection: Current and Future Directions". *Frontiers in Robotics and AI*, vol. 2, no. 29, 2015. (WoS, Q2, IF 2.9)

[J11] Gabriel Hermosilla, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "An enhanced representation of thermal faces for

improving local appearance-based face recognition". *Intelligent Automation & Soft Computing*, pp. 1–12, 2015. (WoS, Q3, IF 0.6)

[J10] Gabriel Hermosilla, Javier Ruiz-del-Solar, **Rodrigo Verschae**, Mauricio Correa. "A comparative study of thermal face recognition methods in unconstrained environments". *Pattern Recognition*, vol. 45, no. 7, pp. 2445–2459, 2012. (WoS, Q1, IF 7.5)

[J9] Javier Ruiz-del-Solar, Mauricio Correa, **Rodrigo Verschae**, Fernando Bernuy, Patricio Loncomilla, Mauricio Mascaró, Romina Riquelme, Felipe Smith. "Bender—A General-Purpose Social Robot with Human-Robot Interaction Abilities". *Journal of Human-Robot Interaction*, vol. 1, no. 2, pp. 54–75, 2012. (WoS, Q1, IF 5.1)

[J8] Mauricio Correa, Gabriel Hermosilla, **Rodrigo Verschae**, Javier Ruiz-del-Solar. "Human Detection and Identification by Robot using Thermal and Visual Information in Domestic Environments". *Journal of Intelligent and Robotic Systems*, vol. 66, no. 1–2, pp. 223–243, 2012. (WoS, Q1, IF 3.1)

[J7] **Rodrigo Verschae**, Mario Koeppen, Kaori Yoshida. "Partial user-supplied information and user modeling for improving QoS". *Simulation Modelling Practice and Theory* (*SIMPAT*), vol. 19, no. 1, pp. 47–55, 2011. (WoS, Q1, IF 3.5)

[J6] Javier Ruiz-del-Solar, **Rodrigo Verschae**, Matias Arenas, Patricio Loncomilla. "Play Ball! Fast and Accurate Multiclass Visual Detection of Robots and its Application to Behavior Recognition". *IEEE Robotics & Automation Magazine*, vol. 17, no. 4, pp. 43–53, 2010. (WoS, Q1, IF 5.1)

[J5] Matias Arenas, Javier Ruiz-del-Solar, **Rodrigo Verschae**, Patricio Loncomilla. "Visual Detection of Legged Robots and Its Application to Robot Soccer Playing and Refereeing". *International Journal of Humanoid Robotics*, vol. 7, no. 4, pp. 669–698, 2010. (WoS, Q2, IF 1.5)

[J4] Javier Ruiz-del-Solar, **Rodrigo Verschae**, Mauricio Correa. "Recognition of Faces in Unconstrained Environments: A Comparative Study". *EURASIP Journal on Advances in Signal Processing*, 2009. (WoS, Q2, IF 1.9)

[J3] **Rodrigo Verschae**, Javier Ruiz-del-Solar, Mauricio Correa. "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. (WoS, Q2, IF 2.5)

[J2] Aureli Soria-Frisch, **Rodrigo Verschae**, Aitor Olano. "Fuzzy fusion for skin detection". *Fuzzy Sets and Systems*, vol. 158, no. 3, 2007. (WoS, Q1, IF 3.2)

[J1] Alex Jaimes, Javier Ruiz-del-Solar, **Rodrigo Verschae**, Dinko Yaksic, Ricardo Baeza-Yates, Emilio Davis, Carlos Castillo. "On the Image Content of a Web segment: Chile a case study". Invited paper, *Journal of Web Engineering*, vol. 3, no. 2, pp. 153–168, 2004. (WoS, Q3, IF 0.5)

Book Chapters (peer-reviewed)

[B3] **Rodrigo Verschae**. "Smart Technologies in Agriculture". In: Zhang Q (ed.), *Encyclopedia of Smart Agriculture Technologies*. Cham: Springer International Publishing, 2023, doi:10.1007/978-3-030-89123-7_234-1

[B2] Javier Ruiz-del-Solar, **Rodrigo Verschae**, Gabriel Hermosilla, Mauricio Correa. "Thermal Face Recognition in Unconstrained Environments Using Histograms of LBP Features". Chapter in *Local Binary Patterns: New Variants and Applications*, Springer Berlin Heidelberg, pp. 219–243, 2014

[B1] **Rodrigo Verschae**, Javier Ruiz-del-Solar. "State of the Art Face Detection: Cascade Boosting Approaches". Chapter in *Applications of Soft Computing: Recent Trends*, Springer, vol. 36, 2006

Theses and Technical Reports

[T5] **Rodrigo Verschae**. "Object Detection Using Nested Cascades of Boosted Classifiers: A Learning Framework and its Extension to the Multi-class Case". PhD thesis, Universidad de Chile, 2010

[T4] **Rodrigo Verschae**. "Improvement of a Face Detection System using A-Contrario Validation Methods". Master's thesis, CMLA, ENS Cachan, 2006

[T3] Javier Ruiz-del-Solar, **Rodrigo Verschae**. "SKINDIFF. Robust and Fast Skin Segmentation". Technical report UCH-DIE-VISION-2006-01, Universidad de Chile, 2006

[T2] **Rodrigo Verschae**, Javier Ruiz-del-Solar, Mauricio Correa. "A Unified Learning Framework for Face, Eyes and Gender Detection using Nested Cascades of Boosted Classifiers". Technical report UCH-DIE-VISION-2006-02, Universidad de Chile, 2006

[T1] **Rodrigo Verschae**. "Face Detection on Image Databases" (in Spanish). Engineer thesis (master-level thesis), Universidad de Chile, 2003

Peer-reviewed Conferences

2026

[C55] Ignacio Bugueno, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Moving6DPoSe: A Multimodal Database for Monocular 6D Pose Estimation and Segmentation of Moving Objects". NEVI Workshop, ECCV, 2026 (accepted)

[C54] Ignacio Bugueno-Cordova, Fabian Ignacio Valderrama-Penaloza, **Rodrigo Verschae**. "eBIRD: Event-based Intensity Image Reconstruction Using Controllable Diffusion Models". NEVI Workshop, ECCV, 2026 (accepted)

[C53] Ignacio Bugueno-Cordova, Malte Kuhlmann, Nicolás Navarro-Guerrero, **Rodrigo Verschae**, Miguel Campusano. "EsaacSim: A Multimodal Event Camera Add-on for NVIDIA Isaac Sim". NEVI Workshop, ECCV, 2026 (accepted)

[C52] Anis Ben Mabrouk, Gabriele Facciolo, Rafael Grompone von Gioi, Alex Davy, Antoine Tadros, **Rodrigo Verschae**. "Pair-Conditioned Representations for Robust Same-View Vehicle Re-Identification". EUSIPCO, 2026 (accepted)

[C51] Nicolas Mastropasqua, Daniel Acevedo, Ignacio Bugueno, **Rodrigo Verschae**. "Event-based Liveness Detection using Temporal Ocular Dynamics: An Exploratory Approach". FG 2026, Facial Micro-Expression (FME) Workshop, 2026 (accepted)

[C50] Ariel Zuñiga-Santana, Gabriele Facciolo, Shohei Nobuhara, **Rodrigo Verschae**. "A Multi-View Photometric Stereo Pipeline for Specular 3D Fruit Reconstruction". WACV 2026 Workshop HARVESTVision, 2026

2025

[C49] Nicolas Mastropasqua, Ignacio Bugeno-Cordova, **Rodrigo Verschae**, Daniel Acevedo, Pablo Negri, Maria Elena Buemi. "Event-based facial microexpression analysis using Spiking Neural Networks". ICPRS, 2025

[C48] Nicolas Mastropasqua, Daniel Acevedo, Ignacio Bugueno, **Rodrigo Verschae**. "Exploring spatial-temporal dynamics in event-based facial microexpression analysis". 2nd Workshop on Neuromorphic Vision, ICCV, 2025

[C47] Ignacio Bugueno, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Human-Robot Navigation using Event-based Cameras and Reinforcement Learning". ADV Workshop, ICIAP, 2025

[C46] Ignacio Bugueno-Cordova, Jairo Navarrete, Christopher A. Flores, **Rodrigo Verschae**. "Visualization of Profiles and Trajectories in Early Childhood Math Abilities using Data Mining Techniques". ICETC, 2025

[C45] Ignacio Bugueno, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Human-Robot Navigation using Event-based Cameras and Reinforcement Learning". CVPR 2025 Workshop on Event-based Vision, 2025

[C44] Christopher A. Flores, **Rodrigo Verschae**. "Active Learning in Biomedical Text Classification Using a Bag-of-Regular-Expressions Approach". IEEE CBMS 2025 (IEEE International Symposium on Computer-Based Medical Systems), 2025

2024

[C43] Robert Guaman, Ariel Zuniga-Santana, **Rodrigo Verschae**. "Assessment of deep learning-based detection algorithms using event camera for construction applications". Proc. 3rd Future of Construction Workshop at ICRA 2024, pp. 5–8, ISSN 2413-5844, May 2024, doi:10.22260/ICRA2024/0004

[C42] Christopher A. Flores, Ariel I. Valenzuela, **Rodrigo Verschae**. "Active Learning for Image Classification: A Comprehensive Analysis in Agriculture". In: Yang X.-S., Sherratt R.S., Dey N., Joshi A. (eds), *Proc. Ninth International Congress on Information and Communication Technology* (*ICICT 2024*), Lecture Notes in Networks and Systems, vol. 1055, Springer, Singapore, doi:10.1007/978-981-97-5441-0_49

[C41] Christopher A. Flores, **Rodrigo Verschae**. "A Hybrid Method for Clinical Text Classification Based on Confident Predictions and Regular Expressions". ICAIIC 2024, Osaka, Japan

[C40] Ignacio Bugueno-Cordova, Miguel Campusano, Robert Guaman-Rivera, **Rodrigo Verschae**. "A Color Event-Based Camera Emulator for Robot Vision". In: Filipe J., Röning J. (eds), *Robotics, Computer Vision and Intelligent Systems* (*ROBOVIS 2024*), CCIS vol. 2077, Springer, Cham, 2024, doi:10.1007/978-3-031-59057-3_24

2023

[C39] Christopher A. Flores, **Rodrigo Verschae**. "Combining Regular Expressions and Supervised Algorithms for Clinical Text Classification". In: Quaresma P. et al. (eds), *Intelligent Data Engineering and Automated Learning – IDEAL 2023*, LNCS vol. 14404, Springer, Cham, doi:10.1007/978-3-031-48232-8_35

[C38] Jairo A. Navarrete-Ulloa, Llery Ponce Pradenas, Christopher A. Flores, **Rodrigo Verschae**. "An Automated Assessment of Early Math Abilities Based on Digital Games". 11th International Conference on Information and Education Technology (ICIET), Fujisawa, Japan, 2023, pp. 172–176, doi:10.1109/ICIET56899.2023.10111319

Before 2023

[C37] Christopher A. Flores, **Rodrigo Verschae**. "A Generic Semi-Supervised and Active Learning Framework for Biomedical Text Classification". *Conf. Proc. IEEE Eng. Med. Biol. Soc.*, 2022:4445–4448, doi:10.1109/EMBC48229.2022.9871846

[C36] 鈴木達哉, 川嶋宏彰, 加藤丈和, **Rodrigo Verschae**, 松山隆司. "協調型エネルギーマネジメントによる分散型蓄電池制御のためのインセンティブモデルの検討" (in Japanese). 第14回情報科学技術フォーラム (FIT2015), M-018, 17 September 2015

[C35] **Rodrigo Verschae**, Hiroaki Kawashima, Takekazu Kato, Takashi Matsuyama. "A Distributed Hierarchical Architecture for Community-based Power Balancing". SmartGridComm 2014, Venice, Italy, pp. 169–175, 2014

[**C34**] **Rodrigo Verschae**, Hiroaki Kawashima, Takekazu Kato, Takashi Matsuyama. "A Distributed Coordination Framework for On-line Scheduling and Power Demand Balancing of Household Communities". 13th European Control Conference (ECC 2014), pp. 1655–1662, Strasbourg, France, June 24–27, 2014 (acceptance rate 484/803 = 60.27%)

[**C33**] Jose Delpiano, Luis Pizarro, **Rodrigo Verschae**, Javier Ruiz-del-Solar. "Multi-objective Optimization for Characterization of Optical Flow Methods". Proc. 9th International Conference on Computer Vision Theory and Applications (VISAPP 2014), vol. 2, pp. 556–573, 2014

[**C32**] Wilma Pairo, Javier Ruiz-del-Solar, **Rodrigo Verschae**, Mauricio Correa, Patricio Loncomilla. "Person following by mobile robots: analysis of visual and range tracking methods and technologies". Proc. 17th RoboCup International Symposium, Eindhoven, Netherlands, 2013, LNCS vol. 8371

[**C31**] Mario Koppen, **Rodrigo Verschae**, Masato Tsuru. "MASP: A Multi-attribute Secretary Problem Approach to Multi-objective Optimization with Fair Decision Maker". Sixth International Conference on Genetic and Evolutionary Computing (ICGEC), pp. 324–327, 2012

[**C30**] **Rodrigo Verschae**, Javier Ruiz-del-Solar. "TCAS: A multiclass object detector for robot and computer vision applications". *Advances in Visual Computing*, LNCS vol. 7431, pp. 632–641, 2012

[**C29**] **Rodrigo Verschae**, Mario Koppen, Masato Tsuru. "A benchmark for evaluating approximated algorithms for fair wireless channel allocation". 4th International Conference on Intelligent Networking and Collaborative Systems (INCoS), pp. 178–184, 2012

[**C28**] Mario Koeppen, **Rodrigo Verschae**, Masato Tsuru. "A Relational Approach to Collaborative Fairness". INCoS 2012, pp. 113–120

[**C27**] Mauricio Correa, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "A Virtual Environment Tool for Benchmarking Face Analysis Systems". ECCV Workshops (3), pp. 536–546, 2012

[**C26**] Mario Koeppen, Kaori Yoshida, **Rodrigo Verschae**, Masato Tsuru, Yuji Oie. "Comparative Study on Metaheuristics for Achieving Parabolic Fairness in Wireless Channel Allocation". 12th IEEE/IPSJ International Symposium on Applications and the Internet (SAINT), pp. 302–307, 2012

[**C25**] Mauricio Correa, Javier Ruiz-del-Solar, **Rodrigo Verschae**, S. Parra-Tsunekawa. "A realistic simulation tool for testing face recognition systems under real-world conditions". *RoboCup 2010: Robot Soccer World Cup XIV*, Springer, pp. 13–24, 2011

[**C24**] **Rodrigo Verschae**, Javier Ruiz-del-Solar. "Coarse-To-Fine Multiclass Nested Cascades for Object Detection". 20th International Conference on Pattern Recognition (ICPR), IEEE Computer Society, pp. 344–347, 2010

[**C23**] Mario Koeppen, **Rodrigo Verschae**, Kaori Yoshida, Masato Tsuru. "Comparison of Evolutionary Multi-Objective Optimization Algorithms for the Utilization of Fairness in Network Control". IEEE International Conference on Systems, Man and Cybernetics, Istanbul, Turkey, 10–13 October 2010, pp. 2647–2655

[**C22**] Javier Ruiz-del-Solar, Mauricio Mascaró, Mauricio Correa, Fernando Bernuy, Romina Riquelme, **Rodrigo Verschae**. "Analyzing the Human-Robot Interaction Abilities of a General-Purpose Social Robot in Different Naturalistic Environments". LNCS vol. 5949 (RoboCup Symposium 2009), pp. 308–319, 2010

[**C21**] Javier Ruiz-del-Solar, **Rodrigo Verschae**, Mauricio Correa, Jong Lee-Ferng, Nelson Castillo. "Real-Time Hand Gesture Recognition for Human Robot Interaction". LNCS vol. 5949 (RoboCup Symposium 2009), pp. 46–57, 2010

[**C20**] Jong Lee-Ferng, Javier Ruiz-del-Solar, Mauricio Correa, **Rodrigo Verschae**. "Hand Gesture Recognition for Human Robot Interaction in Uncontrolled Environments". Workshop on Multimodal Human-Robot Interfaces, IEEE ICRA 2010, Anchorage, Alaska

[**C19**] **Rodrigo Verschae**, Mario Koeppen, Kaori Yoshida. "User Modeling for Improving QoS using partial user supplied information". INCoS '09, pp. 387–390, 2009

[**C18**] Javier Ruiz-del-Solar, **Rodrigo Verschae**, Jong Lee-Ferng, Mauricio Correa. "Dynamic Gesture Recognition for Human Robot Interaction". LARS 2009, Valparaíso, Chile

[**C17**] Gabriel Hermosilla, Javier Ruiz-del-Solar, **Rodrigo Verschae**, Mauricio Correa. "Face Recognition using Thermal Infrared Images for Human-Robot Interaction Applications: A Comparative Study". LARS 2009, Valparaíso, Chile

[**C16**] **Rodrigo Verschae**, Javier Ruiz-del-Solar, Mauricio Correa. "Face Recognition in Unconstrained Environments: A Comparative Study". Workshop on Faces in 'Real-Life' Images: Detection, Alignment, and Recognition, Marseille, France, 2008

[**C15**] **Rodrigo Verschae**, Javier Ruiz-del-Solar. "Multiclass Adaboost and Coupled Classifiers for Object Detection". CIARP, LNCS vol. 5197, Springer, pp. 560–567, 2008

[**C14**] Javier Ruiz-del-Solar, **Rodrigo Verschae**, Paul Vallejos, Mauricio Correa. "Face analysis for human computer interaction applications". VISAPP (Special Sessions), pp. 23–30, 2007

[**C13**] Matias Arenas, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Detection of AIBO and Humanoid Robots Using Cascades of Boosted Classifiers". RoboCup, pp. 449–456, 2007

[**C12**] Hardy Franke, Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Real-Time Hand Gesture Detection and Recognition

Using Boosted Classifiers and Active Learning". PSIVT, pp. 533–547, 2007

[**C11**] **Rodrigo Verschae**, Javier Ruiz-del-Solar, Mauricio Correa. "Gender Classification of Faces using Adaboost". CIARP, LNCS vol. 4225, pp. 68–77, 2006

[**C10**] **Rodrigo Verschae**, Javier Ruiz-del-Solar, Mario Koeppen, Raul Vicente-Garcia. "Improvement of a Face Detection System by Evolutionary Multi-Objective Optimization". 5th International Conference on Hybrid Intelligent Systems, pp. 361–366, 2005

[**C9**] Javier Ruiz-del-Solar, Victor Castaneda, **Rodrigo Verschae**, Ricardo Baeza-Yates, Felipe Ortiz. "Characterizing Objectionable Image Content (Pornography and Nude Images) of Specific Web Segments: Chile as a Case Study". 3rd Latin American Web Congress (LA-WEB 2005), Buenos Aires, Argentina, pp. 269–278, 2005

[**C8**] Aitor Olano, Aureli Soria-Frisch, **Rodrigo Verschae**. "Robust skin detection based on the fuzzy integral". 4th Conference of the European Society for Fuzzy Logic and Technology (EUSFLAT 2005), Barcelona, pp. 1135–1140, 2005

[**C7**] Javier Ruiz-del-Solar, **Rodrigo Verschae**, Daniel Kottow. "Skin Detection in Videos in the Spatial-Range Domain". LNCS vol. 3617, pp. 961–969, 2005

[**C6**] Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Robust Skin Segmentation Using Neighborhood Information". 11th International Conference on Image Processing (ICIP 2004), Singapore, pp. 207–210, October 24–27, 2004, IEEE Press

[**C5**] Javier Ruiz-del-Solar, **Rodrigo Verschae**. "Skin Detection using Neighborhood Information". 6th International Conference on Automatic Face and Gesture Recognition (FG 2004), Seoul, Korea, pp. 463–468, 2004

[**C4**] Ricardo Baeza-Yates, Javier Ruiz-del-Solar, **Rodrigo Verschae**, Carlos Castillo, Carlos Hurtado. "Content-based Image Retrieval and Characterization on Specific Web Collections". 3rd International Conference on Image and Video Retrieval (CIVR 2004), Dublin City University, Ireland, LNCS 3115, Springer, pp. 189–198, 2004

[**C3**] **Rodrigo Verschae**, Javier Ruiz-del-Solar. "A Hybrid Face Detector based on an Asymmetrical Adaboost Cascade Detector and a Wavelet-Bayesian-Detector". LNCS 2686, pp. 742–749, 2003

[**C2**] Alex Jaimes, Javier Ruiz-del-Solar, **Rodrigo Verschae**, Dinko Yaksic, Ricardo Baeza-Yates, Emilio Davis, Carlos Castillo. "On the Image Content of the Web in Chile". 1st Latin American Web Conference (LA-Web'03), Santiago de Chile, pp. 72–83, 2003

[**C1**] Javier Ruiz-del-Solar, Alon Shats, **Rodrigo Verschae**. "Real-Time Tracking of Multiple Persons". 12th International Conference on Image Analysis and Processing (ICIAP'03), Mantova, Italy, pp. 109–114, 2003

Other Publications (magazines, workshops, etc.; not peer-reviewed)

[**O9**] 水谷航太 (Kota Mizutani), **Rodrigo Verschae**, 延原章平 (Shohei Nobuhara). "多視点プロジェクタ・イベントカメラを用いた微表情変化の3次元形状計測" (Three-Dimensional Shape Measurement of Micro-Facial Changes Using Multi-View Projectors and Event Cameras). CVIM 2026, Japan

[**O8**] "A Solid-Mechanics Simulation Augmented with a Magnetic Sensing Model for Real-Time Estimation of Soft Body Deformations". RoboSoft-ExtAbs

[**O7**] Fabian Valderrama, Ignacio Bugueno, **Rodrigo Verschae**. "eBIRD: Event-Based Image Reconstruction by a Denoising Diffusion Probabilistic Model Control". CVPR 2025 LatinX Workshop, 2025

[**O6**] 水谷航太, **Rodrigo Verschae**, 延原章平. "イベントカメラ-プロジェクタ系の時間的・空間的キャリブレーション". 情報処理学会コンピュータビジョンとイメージメディア研究会 (CVIM), 2025-CVIM-242(8), May 2025

[**O5**] Robert Guaman, Ignacio Vasquez, **Rodrigo Verschae**. "A Cherry Orchard Dataset for Agri-Robotics". ICRA Workshop Agri Robots, 2024

[**O4**] **Rodrigo Verschae**. "*La robótica: Una oportunidad que no podemos dejar pasar*". *La Robótica al Servicio de la Pandemia*, Biblioteca del Congreso Nacional de Chile (BCN), 2020

[**O3**] **Rodrigo Verschae**, Shohei Nobuhara, Hiroaki Kawashima, Takashi Matsuyama. "A Real-Time 3D Fish Detection and Tracking System". 19th Meeting on Image Recognition and Understanding (MIRU 2016), PS3-69, August 2016

[**O2**] **Rodrigo Verschae**, Takekazu Kato, Hiroaki Kawashima, Takashi Matsuyama. "A cooperative distributed protocol for coordinated energy management in prosumer communities". IEICE Singapore-Japan Joint Workshop on Ambient Intelligence and Sensor Networks, Singapore, 2015

[**O1**] **Rodrigo Verschae**, Javier Ruiz-del-Solar. "Multiclass Weak Classifiers in Boosted-Cascade Based Object Detection". ICML Workshop on Learning with Test-Time Budgets, Atlanta, USA, 2013