

# CURRICULUM VITAE

## • PERSONAL DATA:

- Name and Surname: Víctor Ponce López
- Place and date of birth: Barcelona, March 25<sup>th</sup> 1988
- Nationality: Spanish
- Webpage: [www.victorponce.es](http://www.victorponce.es)
- Phone number: (+34) 645 47 47 05
- E-mail: v88ponce@gmail.com



## • ACADEMIC DATA:

- 2012-Present: Ph.D Student in Mathematics (special field in Artificial Intelligence, Computer Science, Languages and Systems) at the Faculty of Mathematics of the University of Barcelona.
  - Ph.D. Thesis Title: *"Spatio-Temporal Sub-Gesture Definition for Automatic Human Behaviour Analysis."*
- 2010-2012: Master in Artificial Intelligence at the University of Barcelona, Polytechnic University of Catalonia, and Rovira and Virgili University.
  - Average Grade: 2.58 (1-4).
  - M.S. Thesis Title: *"Multi-Modal Human Gesture Recognition combining Dynamic Programming and Probabilistic Methods."*
  - Obtention of Honors for the M.S. Thesis.
- 2006-2010: Computer Science Engineering at the University of Barcelona.
  - Average Grade: 1.74 (1-4).
  - B.S. Thesis Title: *"Analysis of Oral and Gestural Expression using an Artificial Vision System."*
  - Obtention of Honors for the B.S. Thesis.

Master and Bachelor's Global Average: 2.08 (1-4).

## • LANGUAGES:

- Catalan: Native language. Level C.
- Spanish: Native language.
- English: Intermediate-high (fluent at technical/research purposes).
- French: Basics.

## • PARTICIPATION IN RESEARCH PROJECTS:

**Project Title:** ChaLearn Looking at People Gesture Challenge.

**Funding Entity:** European Conference on Computer Vision (ECCV) 2014.

**Participant Entities:** Microsoft Research Corporation, ChaLearn, Universitat Autònoma de Barcelona (UAB), Universitat de Barcelona (UB), Universitat Oberta de Catalunya (UOC).

**Duration:** from 09/12/2013 to 12/10/2014

**Project Responsible:** Sergio Escalera Guerrero, Xavier Baró, Jordi González, Isabelle Guyon, Jamie Shotton.

**Number of Researchers involved:** 10

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**Project Title:** Spatio-Temporal Sub-Gesture Definition for Automatic Human Behaviour Analysis.

**Funding Entity:** FI-DGR 2013. Research and University Grants Management Agency (*Generalitat* of Catalonia).

**Participant Entities:** Open University of Barcelona (UOC).

**Duration:** from 2013/02/01 until 2015/12/31

**Project Responsible:** Xavier Baró Solé

**Number of Researchers involved:** 5

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**Project Title:** ReMedi: Multi-modal Home Assistive Technology for Dementia and Alzheimer's Diseases.

**Funding Entity:** Obra Social La Caixa.

**Participant Entities:** Bosch and Gimpera Foundation (University of Barcelona).

**Duration:** from 2012/04/01 until 2013/01/31

**Project Responsible:** Oriol Pujol Vila

**Number of Researchers involved:** 4

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**Project Title:** Human Behaviour Analysis in Situations of Criminal Mediation and Attention to the Victim.

**Funding Entity:** Legal Studies and Specialized Formation Center. Department of Justice of the *Generalitat* of Catalonia.

**Duration:** from 2012/02/01 until 2013/03/31

**Project Responsibles:** Víctor Ponce López, Sergio Escalera Guerrero, Xavier Baró Solé.

**Number of Researchers involved:** 3

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**Project Title:** Analysis of Oral and Gestural Expression using an Artificial Vision System.

**Funding Entity:** University of Barcelona.

**Duration:** from: 2010/06/01 until 2010/11/01

**Project Responsible:** Sergio Escalera Guerrero

**Number of Researchers involved:** 2

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## Short biography

I am currently coursing my Ph.D. in Mathematics, in the research field of Artificial Intelligence, Computer Science, Languages and Systems, at the University of Barcelona (UB). I am member of the Department of Applied Mathematics and Analysis at the Faculty of Mathematics in the UB. At the beginnings of 2013, I was granted with an FI-DGR fellowship by the *Agència d'Ajuts Universitaris i de Recerca (AGAUR)*, Generalitat of Catalonia. Then, I joined the Open University of Catalonia (UOC) where I am now a member of the Internet Interdisciplinary Institute (IN3) and the consolidated group *Scene Understanding and Artificial Intelligence (SUNAI)*. On the other hand, I am member of the Computer Vision Center at the Autonomous University of Barcelona (UAB) since I started with my research activity, where I form part of the *Human Pose Recovery and Behavior Analysis (HuPBA)* group and the *BCN Perceptual Computing Lab (BCNPCL)*, which brings together several researchers from different universities and research institutions.

My motivation in research emerged from my Bachelor Thesis chosen for my Computer Science Engineering studies, which I began before I was inscribed in that course. This was due to the high interest emerged on me referring this area and the related R+D+I. This project led me to obtain a collaborative grant with the Department of Applied Mathematics and Analysis of the Faculty of Mathematics at the University of Barcelona. In this direction, I carried out my studies for the Master in Artificial Intelligence that I have completed, as well as the Ph.D in Mathematics that I am currently enrolled in. Nowadays, my research interests are mainly focused on advancing the theoretical framework in the Gesture Recognition field and exploring new techniques for the Automatic Analysis of Human Behavior.

### • SCHOLARSHIPS AND GRANTS:

- 2014: **Labex ARCHIMEDE** Grant for a Research Project. Marseille INstitute of MATHematics and Computer Science (MIN-MACS). Aix-Marseille Université.
- 2013: **FI-DGR 2013 Grant for Formation in Research** from the 'Agència de Gestió d'Ajuts Universitaris i de Recerca' (AGAUR), **Generalitat of Catalonia**.
- 2012: **PMID Grant for Teaching Innovation Projects** from **University of Barcelona**. Code: 2012PID-UB/152  
  
**CEJFE Grant** for a research project with the **Department of Justice (Generalitat of Catalonia)**. *Center of Legal Studies and Specialized Formation*. Resolution id: JUS/237/2011.  
  
**Grant** from *Obra Social La Caixa* for a **Research Project** at the Department of Applied Mathematics and Analysis of the **University of Barcelona**. Grant id: 5800201204001.
- 2011: **Scholarship** for **Web administration** of the **Faculty of Mathematics** of the University of Barcelona. Code: 1-11PUI.
- 2010: **Collaboration Scholarship for Teaching Innovation Projects** with the Department of Applied Mathematics and Analysis of the **University of Barcelona**. Code: 2-10ESC.

### • OTHER PUBLIC AND PRIVATE PROJECTS INVOLVED:

- 2010: **Projects Management and Computer Technician** at the Education Management, Culture and Welfare of the **Barcelona Council**.

- 2008: **Developer of Applications and Computer Technician** at Spainsko, Inter-Strategies, and Personal Script companies.
- 2007: **Technician, Web support, and application commercial** at BCN Network Solutions & Services S.L. company.

## • PUBLICATIONS:

### Journals:

- V. Ponce-López, S. Escalera, M. Perez, O. Janés, and X. Baró. *Non-Verbal Communication Analysis in Victim-Offender Mediations*. In revision.
- A. Hernandez-Vela, M. A. Bautista, X. Perez-Sala, V. Ponce-López, X. Baró, O. Pujol, C. Angulo, and S. Escalera. *Probability-based Dynamic Time Warping and Bag-of-Visual-and-Depth-Words for Human Gesture Recognition in RGB-D*. Pattern Recognition Letters, 2013, ISSN 0167-8655.
- A. Hernández-Vela, M. Reyes, V. Ponce, S. Escalera. *GrabCut-Based Human Segmentation in Video Sequences*. Sensors 2012, Vol. 12 num. 1. pp. 15376-15393.
- V. Ponce, M. Gorga, X. Baró, P. Radeva, and S. Escalera. *Análisis de la expresión oral y gestual en proyectos fin de carrera vía un sistema de visión artificial*. ReVisión, la revista electrónica de la Asociación de Enseñantes Universitarios de la Informática AENUI, Vol. 4, nº 1, ISSN 1989-1199.

### Articles in conferences/workshops:

- S. Escalera, Xavier Baró, J. González, M.-A. Bautista, M. Madadi, M. Reyes, V. Ponce-López, H.-J. Escalante, J. Shotton, I. Guyon. ChaLearn Looking at People Challenge 2014: Dataset and Results. Workshop on ChaLearn Looking at People, ECCV 2014.
- V. Ponce-López, S. Escalera, and X. Baró. Multi-modal Social Signal Analysis for Predicting Agreement in Conversation Settings. International Conference on Multimodal Interaction, 2013, Sydney, ISBN 978-1-4503-2129-7, pp. 495-502.
- A. Hernández, M. A. Bautista, X. Pérez, V. Ponce, X. Baró, O. Pujol, C. Angulo, and S. Escalera. *BoVDW: Bag-of-Visual-and-Depth-Words for Gesture Recognition*. 21st International Conference on Pattern Recognition (ICPR), 2012, Japan.
- M. A. Bautista, A. Hernández, V. Ponce, X. Pérez, X. Baró, O. Pujol, C. Angulo, and S. Escalera. *Probability-based Dynamic Time Warping for Gesture Recognition*. International Workshop on Depth Image Analysis, ICPR 2012, Japan.
- V. Ponce, S. Escalera, & X. Baró. (2012). *Social Signal Analysis in Criminal Mediation Processes* (A.Amato, P.Casale, F.Ciampi, & S.Segui, Eds.) (Vol. 1). Ediciones Gráficas Rey. CVCR&D 2012, Advances in Theory and Applications of Computer Vision.
- V. Ponce, M. Reyes, X. Baró, M. Gorga and S. Escalera. *Two-level GMM Clustering of Human Poses for Automatic Human Behavior Analysis*. CVCR&D State of the Art of Research and Development in Computer Vision. Proceedings of the Sixth CVC WorkShop, ISBN 978-84-938351-5-6, pp. 47-50, 2011.

- V. Ponce, M. Gorga, X. Baró, S. Escalera. *Human Behavior Analysis from Video Data using Bag-of-Gestures*. International Joint Conference on Artificial Intelligence (IJCAI). ISBN 978-1-57735-515-1 Vol. 3, AAAI Press, pp. 2836-2837, 2011.
- V. Ponce, S. Escalera, X. Baró, and P. Radeva. *Automatic Analysis of Non-verbal Communication*. CVCR&D 2010, Achievements and New Opportunities in Computer Vision, ISBN 978-84-938351-0-1, pp. 105-108, 2010.

## **Technical Reports:**

- V. Ponce. *Multi-Modal Human Gesture Recognition combining Dynamic Programming and Probabilistic Methods*. M. Sc. Thesis, 2012.
- V. Ponce. *Reproducció d'Accions en Vídeo*. B. Sc. Thesis, 2010.

## **• PEER REVIEWING:**

- ECCV Workshop papers 2014 (2).
- IEEE Transactions on Multimedia. 2013 (1).
- Journal of Machine Learning Research. 2013(1)-2014(2).

## **• ORGANIZATION:**

- ECCV 2014 Workshop and ChaLearn Looking at People.
- CCIA 2014 Member of the organization.
- ICCV 2011 Member of the organization.

## **• PARTICIPATION IN CONFERENCES AND SEMINARS:**

- Seminars and workshops held by the QARMA group at Centre de Mathématiques et Informatique (CMI). Laboratoire d'Informatique Fondamentale, Aix-Université de Marseille.
- *European Conference on Computer Vision (ECCV) 2014*. Conference assistant and participant. Workshop ChaLearn Looking At People challenge organizer.
- *Congrés Internacional de l'Associació Catalana d'Intel·ligència Artificial (CCIA) 2014*. Facultat de Matemàtiques, Universidad de Barcelona. Member of the Organization Committee.
- *International Conference on Multimodal Interaction (ICMI) 2013*. Coogee Bay Hotel, Sydney, Australia. Conference assistant and participant.

- *First UOC International Research Symposium RDI 2013*. Conference assistant and participant.
- *ENS/INRIA Computer Vision and Machine Learning Summer School 2013*. Assistant and participant.
- *Mobile World Congress (MWC) 2013*. Congress assistant.
- *International Conference on Pattern Recognition (ICPR) 2012*. Tsukuba Science City, Japan. Conference assistant and participant.
- *II Day of Restorative Justice 2012: Experiències restauratives en les comunitats autònomes. Centre d'Estudis Jurídics i Formació Especialitzada (CEJFE), Generalitat of Catalonia*.
- *June Seminar 2012: Humans like watching humans: recent advances in human-centered video analysis*. Assistant at the Computer Vision Center.
- *Mobile World Congress (MWC) 2012*. Congress assistant.
- *International Conference on Computer Vision (ICCV) 2011*. Member of the Organization Committee and conference assistant.
- *Mediation Talk 2012: Gestural communication in mediation sessions*. Center of Legal Studies and Specialized Information, Department of Justice of the *Generalitat* of Catalonia.
- *Workshop CVCR&D 2011*. Assistant and participant at the Computer Vision Center. Autonomous University of Barcelona (UAB).
- *International Joint Conference on Artificial Intelligence (IJCAI) 2011*. Conference assistant participant at the *Doctoral Consortium*.
- *July Seminar 2011: Uncertainty in Artificial Intelligence*. Assistant at the Computer Vision Center.
- *Mobile World Congress (MWC) 2011*. Congress assistant.
- *December Seminar 2010: Facial Behaviour Understanding*. Assistant at the Computer Vision Center.
- *Workshop CVCR&D 2010*. Assistant and Participant at the Computer Vision Center.
- *October Seminar 2010: Model-based analysis of 3D cardiac ultrasound*. Assistant at the Computer Vision Center.
- *July Seminar 2010: Recognizing Human Actions using Spatio-temporal Interest Points*. Assistant at the Computer Vision Center.
- Assistance in more than 20 seminars covering different areas in the **Artificial Intelligence** and **Computer Vision** at the Computer Vision Center of the Autonomous University of Barcelona in the range of years between 2010-2014.

- **TEACHING:**

- Support and preparation of teaching material and codes for the Computer Vision course in the Computer Science degree at the Faculty of Mathematics. University of Barcelona
- Grant for Teaching Innovation Projects with code 2012PID-UB/152 from the University of Barcelona.
- Artificial Intelligence *Xerrades Taller* (Working Talks) at the Faculty of Mathematics (University of Barcelona). Practical Works, Title: "Artificial Intelligence: How do the machines see?" January 2011. Organizer: Dr. Sergio Escalera.
- ITACA UAB. Days for presenting the Complex Problems and activities in the 'Campus Ítaca' at the Autonomous University of Barcelona. 2010-2014.  
<http://pagines.uab.cat/campusitaca/en/content/extraordinary-challenges>

- **HONORS AND AWARDS:**

- Obtention of **Honors** both for **B.S.** and **M.Sc. Theses**.
- **Award for the best Spanish Bachelor Project** by the "*Jornadas de Enseñanza Universitaria de la Informática (JENUI) 2010*" and posterior publication at the *ReVisión* Journal of the "*Asociación de Enseñantes Universitarios de la Informática (AENUI)*", with the **work for automatically determine the success of a communication**.

- **ADDITIONAL INFORMATION AND EXTRACURRICULAR ACTIVITIES**

- 1998-Present: Music:
  - 2004-Present: Piano and Keyboards (as a hobby).
  - 2002-2004: Piano and Keyboards. Diesi School.
  - 2002-2004: Middle Degree in Piano and Musical Language. Diesi School.
  - 2002: Official Liceu Degree from the Generalitat of Catalonia.
  - 1998-2002: Elemental Degree in Piano and Musical Language. Diesi School.
- 2006-Present: Traffic Licence B.
- 2004-Present: 2<sup>nd</sup> Dan Black Belt of Hapkido (Martial Art).