



# juliovega pérez

## Education

- 2008-2018 **Ph.D. Computer Science and A.I.**, *International and Cum Laude honourable mentions*, Dept. of Computer Science and Engineering, University of Alicante, Alicante. The thesis topics are Robotics with vision systems and how to teach it on Sec. Education.
- 2010-2011 **M.Ed. Secondary Education Teacher**, *Department of Juridical and Social Science*, Rey Juan Carlos University, Madrid.
- 2007-2009 **M.Sc. Computer Graphics Science**, *Department of Computer and Information Sciences*, Rey Juan Carlos University, Madrid, SH by ME.
- 2006-2008 **M.Sc. Computer Science**, Rey Juan Carlos University, Madrid, SH by ME.
- 2005-2006 **Computer Science student**, *Polytechnic University of Madrid*, Madrid, GH by ME, Seneca Program.
- 2002-2005 **B.A.Sc. Computer Science**, *University of Extremadura*, Cáceres, SH by ME.

## Experience

### Research

- 2015-2017 **Pre-doctorate stay scholar**, *Joensuu Science Society*, Dept. of Computer Science, University of Joensuu, University of Eastern Finland, Joensuu, Finland, GH by EC. Robotics as vehicular tool for those subjects of scientific and technological education.
- 2008-2012 **Pre-doctorate scholar**, *Robotic Group*, Department of Telematic Systems and Computing, Rey Juan Carlos University, Madrid, SH by URJC. Research works in Mobile Autonomous Robotics, Computer Vision and Teaching Robotics
- 2009 **Pre-doctorate stay scholar**, *Laboratory for Active and Attentive Vision (LAAV)*, Dept. of Computer Science & Engineering and Centre for Vision Research, York University, Toronto, Canada, GH by URJC. Visual attention project under biological perspective
- 2007-2008 **Assistant researcher**, *Robotic Group*, Department of Telematic Systems and Computing, Rey Juan Carlos University, Madrid, GH by ME, Research Program. Project about 3D Scenes Reconstruction with a single camera

### Work

- 2019-Present **Assistant Professor**, *Dept. Telem. Syst. & Comput.*, Rey Juan Carlos U., Madrid. Sensors and actuators, Operating systems, Telematic systems and Computer science.
- 2016-2019 **Adjunct Professor**, *Dept. Telem. Syst. & Comput.*, Rey Juan Carlos U., Madrid. Telematic systems, Computer science and New technologies.

- 2014-2018 **High School Teacher**, *Colegio Nuestra Señora Sagrado Corazón*, Madrid.  
Lead computer, technology and maths bilingual lecture courses.
- 2013-2014 **High School Teacher**, *Colegio Los Abetos*, Madrid.  
Lead technology and maths lecture courses.
- 2012-2013 **High School Teacher**, *Colegio Villa de Móstoles*, Madrid.  
Lead computer, technology and maths lecture courses.
- 2006-2007 **Applications Developer and Analyst**, *Industrial Real Time Applications*, Madrid.  
Design, coding, and testing of market research applications.
- 2005-2006 **High School Teacher**, *Rafael Alberti High School*, Madrid.  
Lead computer lecture courses.
- 2004-2005 **Free Software Developer and Analyst**, *Univ. of Extremadura*, Cáceres, GH by UEx.  
Design, coding, and testing of GNU/Linux research applications.

## Languages

- Spanish **Native language**.
- May 2017 **TKT CLIL cert.(gr.4/4)**, *Cambridge English: Teaching Knowledge*, Madrid.
- Jun 2015 **C1 Advanced (CAE)**, *Cambridge English*, Madrid.

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- Nov. 2010 **B2 Immersion English Course**, *Menéndez Pelayo Int. Univ.*, Barcelona (Spain).
  - Mar. 2010 **B2 Immersion English Course**, *Menéndez Pelayo Int. Univ.*, Tenerife (Spain).
  - Oct. 2009 **B2 Immersion English Course**, *Menéndez Pelayo Int. Univ.*, Santander (Spain).
  - Aug. 2008 **B1 English Course**, *English School*, St. Julians (Malta).
  - Jul. 2008 **B1 Immersion English Course**, *Menéndez Pelayo Int. Univ.*, Valencia (Spain).
  - Aug. 2007 **B1 English Course**, *English School*, Bournemouth (England).
  - Aug. 2002 **A2 English Course**, *English School*, Durham (England).
  - Aug. 2001 **A1 English Course**, *English School*, Derbi (England).
- I was grant holder by ME in all of these English courses

## Additional education and awards

- 2019 **International award to the best STEM project**, *XX Ciencia en Acción*, CSIC.
- 2015-17 **Innovation project: Teaching Robotics**, GH by EC, Erasmus+ Program.
- 2016 **Computational thinking through Robotics**, *INTEF*, GH by ME, 50h.
- 2016 **Programming in classroom**, *Comunidad de Madrid*, 40h.
- 2015 **LPI Linux Essentials Certificate**, *Linux Professional Institute*, Madrid.
- 2015 **Robotics in classroom**, *Comunidad de Madrid*, 40h.
- 2014 **How to use new technologies in classroom**, *Comunidad de Madrid*, 40h.
- 2013 **International award the best teaching innovation**, *XIV Ciencia en Acción*, CSIC.
- 2012 **Innovative experiences for basic skills**, *Learning innovation*, 50h.
- 2012 **Educational guidance in Secondary Education**, *Learning innovation*, 50h.
- 2012 **Application of free software in education**, *Learning innovation*, 100h.
- 2012 **Educational applications of ICT in classroom**, *Learning innovation*, 100h.
- 2010 **Leisure Activities Instructor**, *Regional Ministry of culture and sport*, Madrid, 290h.

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## Interests

- Volunteering Scout instructor and Red Cross volunteer in several projects.
- Trekking I love nature so this sport is a great way to enjoy it.
- Cycling I have competed many years in this sport and I keep practicing it.

SH: Scholarship-Holding | GH: Grant-Holding | ME: Ministry of Education | URJC: U. Rey Juan Carlos | EC: European Commission

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## Publications

- [1] *[Workshop]*. J. Fernández, Julio Vega, J.M. Cañas, and Diego Martín. Un entorno web multiplataforma para enseñanza de programación robótica a nivel universitario. In *I Congreso Internacional de Innovación Docente e Investigación en Educación Superior: Un reto para las Áreas de Conocimiento*, volume 1, page 395. ASUNIVEP, November 2019. ISBN 978-84-09-16343-4.
- [2] *[Workshop]*. J. Fernández, Julio Vega, J.M. Cañas, and Diego Martín. Biblioteca de funciones para enseñanza de algoritmos de inteligencia artificial en Ingeniería. In *I Congreso Internacional de Innovación Docente e Investigación en Educación Superior: Un reto para las Áreas de Conocimiento*, volume 1, page 398. ASUNIVEP, November 2019. ISBN 978-84-09-16343-4.
- [3] *[Article]*. Julio Vega and J.M. Cañas. Open vision system for low-cost Robotics education. *Electronics*, 8:1295–1315, November 2019. ISSN 2079-9292.
- [4] *[Workshop]*. Julio Vega. Plataforma robótica abierta para la enseñanza STEM en Educación Secundaria. In *XX Ciencia en acción*, volume 1, page 295. Ciencia en acción, October 2019. ISBN 978-84-15771-74-6.
- [5] *[Article]*. Julio Vega and J.M. Cañas. PyBoKids: An innovative python-based educational framework using real and simulated Arduino robots. *Electronics*, 8:899–915, August 2019. ISSN 2079-9292.
- [6] *[Interview]*. Julio Vega. El profesor Julio Vega, finalista del concurso 'Ciencia en Acción 2019'. URJC, on-line newspaper interview, July 2019.
- [7] *[Article]*. Julio Vega and J.M. Cañas. PiBot: An open low-cost robotic platform with camera for STEM education. *Electronics*, 7:430–446, December 2018. ISSN 2079-9292.
- [8] *[Ph.D. thesis]*. Julio Vega. *Educational framework using robots with vision for constructivist teaching Robotics to pre-university students*. Doctoral thesis on computer science and artificial intelligence, University of Alicante, September 2018.
- [9] *[Workshop]*. Julio Vega. JdeRobot-Kids framework for teaching robotics and vision algorithms. In *II jornada de investigación doctoral*. University of Alicante, June 2018.
- [10] *[Workshop]*. Julio Vega and J.M. Cañas. Entorno docente con Arduino y Python para educación robótica en Secundaria. In *JITICE 5th Workshop, Educational Innovation and ICT*. Rey Juan Carlos University, October 2016. ISBN 978-84-697-0892-7.
- [11] *[Technical report]*. Julio Vega. De la tiza al robot. Technical report, June 2015.
- [12] *[Workshop]*. Julio Vega and J.M. Cañas. Curso de Robótica en Educación Secundaria usando constructivismo pedagógico. In *JITICE 4th Workshop, Educational Innovation and ICT*. Rey Juan Carlos University, November 2014. ISSN 2172-6620.
- [13] *[Workshop]*. J.M. Cañas, L. Martín, and Julio Vega. Innovating in robotics education with Gazebo simulator and JdeRobot framework. In *XXII Congreso Universitario de Innovación Educativa en Enseñanzas Técnicas, CUIEET*, volume 2, pages 1483–1496. University of Castilla-La Mancha, September 2014. ISBN 978-84-9044-108-4.
- [14] *[Workshop]*. Julio Vega. Conversación con mi yo virtual. In *XIV Ciencia en acción*, volume 1. Ciencia en acción, October 2013. ISBN 978-84-15771-32-6.

- [15] *[Workshop]*. B. Menéndez, J.M. Cañas, E. Perdices, and Julio Vega. Programming a humanoid social robot using the JdeRobot framework. In *11th Workshop, Robots sociales*, pages 71–94. Robocity 2030, Carlos III University, March 2013. ISBN ISBN:978-84-695-7212-2.
- [16] *[Article]*. Julio Vega, E. Perdices, and J.M. Cañas. Robot evolutionary localization based on attentive visual short-term memory. *Sensors*, 13:1268–1299, January 2013. ISSN 1424-8220.
- [17] *[Book chapter]*. Julio Vega, E. Perdices, and J.M. Cañas. *Attentive visual memory for robot localization*, pages 408–438. IGI Global, USA, September 2012. ISBN 978-1-4666-2672-0 (hardcover). Text not available. This book is protected by copyright.
- [18] *[Interview]*. Julio Vega. Robots to help Alzheimer's patients. El Mundo, TV interview, June 2012.
- [19] *[Workshop]*. Julio Vega, E. Perdices, and J.M. Cañas. Robot evolutionary localization based on attentive visual short term memory. In *Proceedings on Perception in Robotics*. International IEEE Intelligent Vehicles Symposium, University of Alcalá, June 2012. ISBN 978-84-695-3472-4.
- [20] *[Interview]*. Julio Vega. Tips to pre-university students. I.E.S. Ramón Carande invited talk, June 2012.
- [21] *[Article]*. Julio Vega, J.M. Cañas, and E. Perdices. Local robot navigation based on an active visual short-term memory. *Journal of Physical Agents*, 6(1):21–30, 2012. ISSN 1888-0258.
- [22] *[Workshop]*. Julio Vega and J.M. Cañas. Attentive visual memory for robot navigation. In *XII Workshop de Agentes Físicos*, pages 87–94. University of Castilla-La Mancha, September 2011. ISBN 978-84-694-6730-5.
- [23] *[Master thesis]*. Julio Vega. El humor en el aula de matemáticas. Master thesis on teaching, Rey Juan Carlos University, May 2011.
- [24] *[Workshop]*. E. Perdices, J.M. Cañas, Julio Vega, C. Agüero, and F. Martín. Localización visual de robots en la RoboCup mediante algoritmos evolutivos. In *Workshop on Visión en Robótica*, pages 129–148. Robocity 2030, Rey Juan Carlos University, October 2010. ISBN 978-84-693-6777-3.
- [25] *[Workshop]*. Julio Vega, J.M. Cañas, P. Miangolarra, and E. Perdices. Memoria visual atenta basada en conceptos para un robot móvil. In *Workshop on Visión en Robótica*, pages 107–128. Robocity 2030, Rey Juan Carlos University, October 2010. ISBN 978-84-693-6777-3.
- [26] *[Workshop]*. J.M. Cañas, E. Perdices, and Julio Vega, editors. Robocity 2030, Workshop on Visión en Robótica, Rey Juan Carlos University, October 2010. ISBN 978-84-693-6777-3.
- [27] *[Workshop]*. Julio Vega. Robotics. In *Proceedings of Star Trek National Convention*. Star Trek National Convention, October 2009.
- [28] *[Workshop]*. Julio Vega and J.M. Cañas. Sistema de atención visual para la interacción persona-robot. In *Workshop on Interacción persona-robot*, pages 91–110. Robocity 2030, Universidad Nacional de Educación a Distancia, September 2009. ISBN 978-84-692-5987-0.
- [29] *[Workshop]*. J.M. Cañas, C. Agüero, F.M. Rico, and Julio Vega, editors. Robocity 2030, Workshop on Cooperación en Robótica, Rey Juan Carlos University, February 2009. ISBN 978-84-691-6414-3.
- [30] *[Master thesis]*. Julio Vega. Navegación y autolocalización de un robot guía de visitantes. Master thesis on computer science, Rey Juan Carlos University, September 2008.
- [31] *[Technical report]*. Julio Vega. Reconstrucción de escenas en 3d. Technical report granted by M.E., June 2008.
- [32] *[Interview]*. Julio Vega. Me gusta la Robótica. HOY, newspaper interview, November 2007.