

# Paola ARDÓN RAMÍREZ

## PERSONAL DATA

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## EDUCATION

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- Current: Centre for Doctoral training **PhD. in Robotics and Autonomous Systems** . University of Edinburgh and Heriot-Watt University, UK. **Expected graduation date: November 2021.**
- September 2018: Centre for Doctoral training **Master of Science in Robotics and Autonomous Systems.** University of Edinburgh and Heriot-Watt University, UK. **Graduation with distinction.**
- June 2017: Advanced postgraduate program based on 3D vision and robotics **Master of Science in Computer Vision and Robotics - VIBOT Erasmus Program.** Joint Program in three different universities: University of Bourgogne - France, University of Girona - Spain, Heriot-Watt University United Kingdom. **Graduated with distinction.**
- May 2013: **Bachelor's Degree in Electrical and Computer Engineering** - minor in Business. John Brown University, Siloam Springs AR, USA. **Graduated cum laude**

## OUTSTANDING SCHOLARSHIPS AND AWARDS

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- August-2017: James Watt Doctoral Scholarship (GBP £ 142,000) – Based on academic performance.
- June-2015: VIBOT Erasmus Mundus Scholarship (EUR € 47,000) – Based on academic performance.
- January 2009: Walton Scholarship Program (USA \$ 130,000) – Based on academic performance.
- Spring 2013: Third place in the Systems Engineering Paper for Lunabotics Mining Competition at NASA; and Second place in the Project Presentation for Lunabotics Mining Competition at NASA.

## PUBLICATIONS

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- Ardón, P.; Pairet, È.; Petrick, R.; Ramamoorthy, S.; and Lohan K. S. Reasoning on Grasp-Action Affordances, in Conf. Towards Autonomous Robotic Systems. July 2019.
- Pairet, È.; Ardón, P.; Mistry, M. and Petillot, Y. Learning and Composing Primitive Skills for Dual-arm Manipulation, in Conf. Towards Autonomous Robotic Systems. July 2019.
- Ardón, P.; Pairet, È.; Ramamoorthy, S.; and Lohan, K. S. Towards robust grasps: Using the environment semantics for robotic object affordances. 2018. In AAI Fall Symposium. Reasoning and Learning in Real-World Systems for Long-Term Autonomy. AAAI Press.
- Pairet, È.; Ardón, P.; Brox, F.; Mistry, M.; and Petillot, Y. 2018a. Learning and generalisation of primitives skills towards robust dual-arm manipulation. In AAI Fall Symposium. Artificial Intelligence for Reasoning and Learning in Real-World Systems for Long-Term Autonomy. AAAI Press.
- Ardón, P.; Pairet, È.; Ramamoorthy, S.; and Lohan, K. S.. Object affordances by inferring on the surroundings, In Proc. IEEE Workshop on Advance Robotics and its Social Impact, 2018. In press.
- Ardón P.; Dragone, M. and Erden, M. S.Reaching and Grasping of Objects by Humanoid Robots through Visual Servoing. 6 Jun 2018 Haptics: Science, Technology, and Applications. Springer, p. 353-365 13 p. (Lecture Notes in Computer Science; vol. 10894).

## RESEARCH PROJECTS

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- **Current – PhD Research on Robotic Object Affordances:** Investigate on action affordances for indoor environment objects with the purpose of improving reaching and grasp behaviours.
- **Current – ORCA Hub:** Integration and optimisation of the different robotic platforms and algorithms involved in the development of the project.
- **Spring 2018 – Master thesis on Reasoning Grasp-Action Affordances:** Design and implement a reasoning technique for object grasp-action affordances.
- **Master thesis on Visual Servoing and Grasping (Spring 2017):** Design and implement a visual servoing system on Aldebaran-Softbank platform for Pepper robot to grasp objects.
- **Fall 2016 – SLAM and Object Recognition - Pepper Robot:** Group project - Implemented visual SLAM with object recognition based on ERL - service robots competition rules.
- **2015-2016 – Image Segmentation, Optimisation, localisation and path planning algorithms:** Implementation of image processing, classification and recognition algorithms (Pascal project).
- **Spring 2013 – Lunabot NASA Project:** Group project -Lunabotics Mining Competition Project (LMC) organised by NASA. Designed a fully functional prototype of a mining robot that works on the lunar environment collecting regolith. Worked on the electrical system: wireless communication, control and autonomy. Main focus on the IMU system, and autonomy software design.
- **Spring 2012 – Solar Panel Heater :**Group project - Designed the electrical system for a solar panel heater. In charge of: Solar tracking system, settings, monitoring temperature, and user interface features.

## SKILLS

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- Languages: Spanish (mother tongue) and English (high level).
- Programming languages at high level: C++, SQL and C, Python, MATLAB, NIOS II, AHDL, VHDL.
- Well handling of revision control systems (*git, cmake*); organisational frameworks, open source frameworks and cross -platforms (*Qt, openCV, Mevislab, ITK, PBRT*); robotics operative systems (*ROS, NaoqiSDK for Aldebaran*); electrical engineering software interfaces (*Quartus II*); general engineering software (*Solid-Works and Derive*). Additionally, handling of: *Linux-Ubuntu, Macintosh, Windows-Microsoft and LaTeX*.
- Digital communication systems, signal representations, modulations, and control systems.
- Extra curricular courses in the Business Administration and Organisational Leadership areas.
- Evaluate and asses situations effectively through research and compilation of information.
- Being dependable, hard working, innovative, active participation, team work and leadership skills, self motivated and committed to the job.
- Ability to create bonds towards the working group to reach personal and collective progress.

## ADDITIONAL EXPERIENCE

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- **Sep 2013-Aug 2015 – VAP Engineer at Tigo Honduras-Operation and Maintenance:** Technical support and monitoring to Added Value Platforms (VAP). As well as root Cause Analysis of common and non-common problems regarding the software and hardware.
- **Spring 2012-Spring 2013 – Tutor and Teacher Assistant at John Brown University-Engineering Department** Tutored and assisted over 25 students for two hours per week providing innovative explanations to clarify doubts. Some of the tutored courses: Electromagnetic, Electrical Circuits, Concepts in Electrical Engineering, and Algebra.
- **May-term 2011 – School Year 2012-2013 – Resident Assistant at John Brown University-Student Development Department.** Helped to create an appropriate living environment for the residents.

## VOLUNTEERING WORK

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- Apr 2019 - current: Cancer Research UK - Edinburgh, UK.
- Aug 2017 - January 2018: First Aid Africa - UK.
- Aug 2013 - July 2015: TECHO - Honduras.
- Jan 2009 - May 2013: PTA translator, Nursing home, high school tutor - USA.

## REFERENCES

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### Academic References

- *Dr. Katrin Lohan:*  
Associate Professor of School for Mathematical and Computer Sciences Heriot-Watt University  
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- *Dr. Robert Marti:*  
Associate Professor at the Computer Vision and Robotics Group Universitat de Girona Mail: 17071 Girona, Spain.  
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- *Dr. Tim Gilmour:*  
Associate Professor of Engineering John Brown University  
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### Professional References

- *Alejandro Servellon:*  
VAP and Rollout Engineer Tegucigalpa MDC, Honduras  
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- *Bryan Cole*  
Resident Director John Brown University  
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### Personal References

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