Curriculum vitae

PERSONAL INFORMATION

Pablo Muñoz Martínez

Delft (Netherlands)

pablo.munoz@uah.es

https://pmunoz.es

Sex Male | Date of birth 25/01/1986 | Nationality Spanish

EDUCATION AND TRAINING

09/2004–04/2009

B.D. in Computer science

EQF level 6

Unviersity of Alcalá, Alcalá de Henares (Spain)

Degree dissertation: "autonomous control system for the locomotion of the Ptinto hexapod robot using the PIPSS planner".

10/2010–01/10/2011

M.D. in space technology

EQF level 7

University of Alcalá, Alcalá de Henares (Spain)

Masters dissertation: "Modular autonomous control architecture for the locomotion of the Ptinto hexapod robot".

Best academic record.

01/10/2012–15/11/2016

Ph.D. in space technology

EQF level 8

University of Alcalá, Alcalá de Henares (Spain)

Thesis dissertation: "evaluating and characterizing autonomous controllers".

Mentions: cum laude and international doctorate.

WORK EXPERIENCE

01/07/2006–31/08/2006

IT technician

Compusof S.A., Madrid (Spain)

Maintenance of computers and help-desk.

01/07/2007–27/02/2009

IT technician

Geography department, University of Alcalá, Alcalá de Henares (Spain)

Maintenance of computers and help-desk.

01/04/2009–31/03/2011

Researcher

Computer engineering department, University of Alcalá, Alcalá de Henares (Spain)

Research on autonomy for robotics platforms.

01/05/2011–30/09/2011

Researcher

Intelligent systems department, Technical University of Madrid, Madrid (Spain)

Research planning and scheduling techniques in the context of the SIGUEME project.

01/10/2012–15/11/2016

Predoctoral researcher

Computer engineering department, University of Alcalá, Alcalá de Henares (Spain)

PhD on autonomous robots funded by ESA NPI programme.

01/12/2016–31/01/2018

Postdoctoral researcher

Computer engineering department, University of Alcalá, Alcalña de Henares (Spain)

Writing project proposal for H2020, ESA ITT and Spain national and regional. Organizing the SMC-IT 2017 conference and continue previous research on autonomous robots.

01/02/2018–Present

Scientific employee

Science & Technology, Delft (Netherlands)

Participate in the development of an adaptive driver decision support system in the context of the H2020 CERBERO project and in the implementation of the L2 Prototype Processors for the Sentinel 5 satellite.

PERSONAL SKILLS

Mother tongue(s): Spanish

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
	Pre-advanced (B2.2)				

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills: I have experience in teaching (more than 120 teaching hours in the university) and supervising undergraduate students (I supervised 4 B.D. and 2 M.D. dissertations). Currently I co-advise one PhD student. I participated as speaker in multiple international conferences and as a session chair in two conferences.

Organisational / managerial skills: I can manage and supervise of small teams. Particularly, I supervised the LARES project (3 undergraduate students and 2 PhD), an perfomed an industrial research project for Profine Iberia S.A. (6 researchers) as a PI. and I worked in the organizing committee of the SMC-IT 2017 international conference. I participated in several research projects proposals and as a reveiwer in international conferences and journals.

Driving licence: B

ADDITIONAL INFORMATION

Publications

- Fernando Ropero Pastor; Pablo Muñoz Martínez; María Dolores R-Moreno. ARIES: An Autonomous Controller For Multirobot Cooperation. IEEE Aerospace and Electronic Systems Magazine. pp. 1-16. To appear 2019.
- Fernando Ropero Pastor; Daniel Vaquerizo-Hernández; David F. Barrero; María Dolores R-Moreno; Pablo Muñoz Martínez. LARES: An AI-based teleassistance system for emergency home monitoring. Cognitive Systems Research. pp. 1-10. To appear 2019
- Fernando Ropero Pastor; Pablo Muñoz Martínez; María DoloresRodríguez Moreno. TERRA: A path planning algorithm for cooperative UGV-UAV exploration. Engineering Applications of Artificial Intelligence. 78, pp. 260-672. Elsevier. 01/02/2019. ISSN 0952-1976. DOI: 10.1016/j.engappai.2018.11.008
- Pablo Muñoz Martínez; María Dolores Rodríguez Moreno; David Fernández Barrero; Fernando Ropero Pastor. MoBAr: A hierarchical action-oriented autonomous control architecture. Intelligent and Robotic Systems, Springer, 22/03/2018. ISSN 0921-0296. DOI: 10.1007/s10846-018-0810-z
- Daniel Vaquerizo Hernández; Pablo Muñoz Martínez; María D. Rodríguez Moreno; David

Fernández Barrero. A Low Power Consumption Algorithm for Efficient Energy Consumption in ZigBee Motes. Sensors Special Issue Energy Harvesting Sensors for Long Term Applications in the IoT Era. 17 - 10, pp. 2179 - 2201. Basel(Suiza): MDPI, 22/09/2017. ISSN 1424-8220

- Pablo Muñoz Martínez; María Dolores Rodríguez Moreno; Bonifacio Castaño Martín. 3Dana: a path planning algorithm for surface robotics. Engineering Applications of Artificial Intelligence. 60, pp. 175 - 192. Elsevier, 01/04/2017. ISSN 0952-1976. DOI: 10.1016/j.engappai.2017.02.010
- Pablo Muñoz Martínez; M. Dolores Rodríguez Moreno; David Fernández Barrero. Unified framework for path-planning and task-planning for autonomous robots. Robotics and Autonomous Systems. 82, pp. 1 - 14. Elsevier, 11/05/2016. ISSN 0921-8890. DOI: 10.1016/j.robot.2016.04.010
- Pablo Muñoz Martínez; Bonifacio Castaño Martín; M. Dolores Rodríguez Moreno. Simulation of The Hexapod Robot Ptinto Walking on Irregular Surfaces. International Journal of Simulation Modelling. 14 - 1, pp. 5 - 16. DAAM International, 01/03/2015. ISSN 1726-4529. DOI: 10.2507/IJSIMM14(1)1.269
- Pablo Muñoz Martínez; David Fernández Barrero; M. Dolores Rodríguez Moreno. A Statistically Rigorous Analysis of 2D Path-Planning Algorithms. Computer Journal. 58 - 11, pp. 2876 - 2891. Oxford University Press, 03/12/2014. ISSN 0010-4620. DOI: 10.1093/comjnl/bxu137
- Daniel Vaquerizo Hernández; Pablo Muñoz Martínez; María D. Rodríguez Moreno; David Fernández Barrero. A Low Power Consumption Algorithm for Efficient Energy Consumption in ZigBee Motes. Sensors Special Issue Energy Harvesting Sensors for Long Term Applications in the IoT Era. 17 - 10, pp. 2179 - 2201. MDPI, 22/09/2017. ISSN 1424-8220. DOI: 10.3390/s17102179
- David Fernández Barrero; M. Dolores Rodríguez Moreno; Pablo Muñoz Martínez; David Camacho. On the Statistical Distribution of the Run-Time to Success in Population-Based Search Algorithms. Soft Computing. 19 - 10, pp. 2717 - 2734. Springer, 01/10/2015. ISSN 1432-7643. DOI: 10.1007/s00500-015-1672-y
- M. Dolores Rodríguez Moreno; Bonifacio Castaño Martín; Melquiades Carbajo Martín; Ángel Moreno Blázquez; Pablo Muñoz Martínez; David Fernández Barrero. Multi-Agent Intelligent Planning Architecture for People Location and Orientation using RFID. Cybernetics and Systems. 42 - 1, pp. 16 - 32. Taylor & Francis, 2011. ISSN 0196-9722. DOI: 10.1080/01969722.2011.532640
- Pablo Muñoz Martínez; M. Dolores Rodríguez Moreno. Novel Applications of Intelligent Systems. On Heading Change Measurement: Improvements for Any-Angle Path-Planning (chapter). 586, pp. 83 - 104. SPRINGER-VERLAG GMBH, 09/03/2016. ISBN 978-3-319-14193-0. DOI: 10.1007/978-3-319-14194-7_5

Conferences

Selection, for the complete list visit: http://orcid.org/0000-0003-0581-5383

- P. Muñoz, M. D. R-Moreno, and B. Castaño, “3Dana: Path Planning on 3D surfaces,” in Procs. of the 36th SGAI International Conference on Artificial Intelligence, Cambridge, UK, 2016, pp. 177–191.
- P. Muñoz, A. Cesta, A. Orlandini, and M. D. R-Moreno, “Evaluating Autonomous Controllers: An Initial Assessment,” in 6th Italian Workshop on Planning and Scheduling, Ferrara, Italy, 2015.
- P. Muñoz, A. Cesta, A. Orlandini, and M. D. R-Moreno, “The On-Ground Autonomy Test Environment: OGATE,” in Procs. of the 13th ESA Workshop on Advanced Space Technologies for Robotics and Automation (ASTRA 2015), Noordwijk, The Netherlands, 2015.
- P. Muñoz, A. Cesta, A. Orlandini, and M. D. R-Moreno, “A Framework for Performance Assessment of Autonomous Robotic Controllers,” in Proc. of the 2nd Workshop on Planning and Robotics (ICAPS 2015), Jerusalem, Israel, 2015.
- P. Muñoz and M. D. R-Moreno, “S-Theta*: Low Steering Path-Planning Algorithm,” in Procs. of the 32nd SGAI International Conference on Artificial Intelligence, Cambridge, UK, 2012, pp. 109–121.
- P. Muñoz and M. D. R-Moreno, “Improving Efficiency in Any-Angle Path-Planning Algorithms,” in Procs. of the 6th IEEE International Conference on Intelligent Systems (IS 2012), Sofia, Bulgaria, 2012, pp. 213–218.
- P. Muñoz, M. D. R-Moreno, and A. Martínez, “A First Approach for the Autonomy of the Exomars Rover Using a 3-Tier Architecture,” in Procs. of the 11th ESA Workshop on Advanced Space Technologies for Robotics and Automation (ASTRA 2011), Noordwijk, The Netherlands, 2011.
- P. Muñoz, M. D. R-Moreno, and B. Castaño, “Integrating a PDDL-Based Planner and a PLEXIL-Executor into the PTinto robot,” in Procs. of the 23rd International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems (IEA-AIE 2010), Córdoba, Spain, 2010, pp. 72–81.

Honours and awards

- Best academic record M.D. in Space Technology (University of Alcalá, 2010)
- Second place in 8th contest of innovative ideas for creating new technological enterprises (University of Alcalá, 2015).