Ignacio Alzugaray

Curriculum Vitae

Unterfeldstrasse 104, Zürich 8050, Switzerland
Birthdate: 10/11/1992 | Nationality: Spanish
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Education

2016 **Master Degree with honors in Automatic Control and Robotics**.

Polytechnic University of Catalonia (UPC), ETSEIB, Barcelona, Spain. *GPA – 8.70/10*
Master Thesis: *Path planning for MAVs with vision in the loop*
- Advisor: Prof. Margarita Chli. Grade: 5.75/6. ETH Zürich – International student exchange.
- Paper accepted in the *International Conference on Robotics and Automation* (ICRA 2017).

2014 **Bachelor Degree with honors in Electrical Engineering**.

University of Malaga (UMA), ETSII, Malaga, Spain. *GPA – 8.49/10*
Thesis: *Teleoperation of Robotic Manipulators applied to Laparoscopic Surgery.*
- Advisor: Phd. Carlos Perez-del-Pulgar. Grade: 9.5/10. Best Bachelor Thesis' Award.

Experience

Research Experience

Present **Research Assistant**.
09/2016 *ETH Zürich – Vision for Robotics Lab (V4RL)*
Research on CPU-only event-based SLAM and Active Monocular-Inertial SLAM systems.
Supervisor: Prof. Margarita Chli.

02/2016 **Research Assistant Intern**.
06/2015 *Institute of Robotics and Industrial Informatics (IRI - UPC - CSIC)*
Research on improvement of path planning algorithms learning form expert pilots' experience.
Paper accepted in International Conference on Intelligent Robots and Systems (IROS 2016).
Supervisor: Prof. Alberto Sanfeliu.

07/2014 **Undergraduate Research Assistant**.
10/2013 *Andalusian Institute of Advanced Automation and Robotics (IA3R)*
Research on trajectory control algorithms for robotic arms applied to laparoscopic surgery.
Supervisor: Phd. Carlos Perez-del-Pulgar.

Teaching Experience

Present **Master's Thesis Student Supervisor**.
09/2016 *ETH Zürich – Vision for Robotics Lab (V4RL)*
- *Path planning for UAVs with Visual-Inertial SLAM*. Collaboration with IBM Zurich.
- *Improved Visual SLAM with event-based cameras*.

07/2015 **Teaching Assistant Intern**.
01/2015 *Polytechnic University of Catalonia (UPC)*
Department of Mechanical Engineering and Department of Thermal Engines and Machines.
Creation, updating and maintenance of digital content for new courses.

09/2015 **Undergraduate Teaching Assistant Intern**.
07/2015 *Department of Applied Mathematics. University of Malaga (UMA)*
Simulation of numerical methods applied to differential equations for teaching purposes.
Supervised by: Jose Manuel Gonzalez-Vida.

07/2012	**Undergraduate Electronic Lab Assistant**.
02/2012	*Department of Electronics. University of Malaga (UMA)*
	Teaching support during students' practices and maintenance of electronic equipment.

Vocational

| 07/2013 | **Participant in the *International Summer School in Microtechnology***. |
| | *Albert-Ludwigs Universität Freiburg (Germany)* |

07/2013	**Contestant in Spanish Control Committee (CEA-IFAC) XXXIV Competition**.
12/2012	*Department of Systems Engineering and Automatics. University of Malaga (UMA)*
	Modelling of multirotor UAVs and designing of way-point path planning algorithms.
	Supervisor: Anthony Mandow.

Publications

[C2] I. Alzugaray, L. Texeira and M. Chli. Short-term UAV Path-Planning with Monocular-Inertial SLAM in the Loop. In *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*. Singapore, 2017.

[C1] I. Alzugaray and A. Sanfeliu. Learning the Hidden Human Knowledge of UAV Pilots when navigating in a cluttered environment for improving Path Planning. In *Proceedings of the IEEE/RSJ Conference on Intelligent Robots and Systems (IROS)*. Daejeon, Korea, 2016.

Awards and Scholarships

2016	Best Master's Degree Academic Record (2014–2016). *Polytechnic University of Catalonia (UPC), ETSEIB.* Sponsored by KUKA ROBOTS.
2015	International Student Scholarship in ETH Zürich. *Swiss-European Mobility Programme.*
2014	Excellence scholarship in Master's Programme. *Catalunya-La Pedrera Foundation.*
2014	Best Graduate Academic Record and Best Bachelor's Thesis (2010–2014). *University of Malaga (UMA), ETSII.*
2013	Competitive Undergraduate Research Fellowship. *Spanish Ministry of Education.*

Languages

Spanish	**Native**	
English	**Fluent**	*B2.2 University of Cambridge (2013)*
German	**Basic**	*A2.2 University of Zürich (2016)*

Skills

Languages	C++, Matlab, Simulink, LaTeX, Python
Tools	Linux, Ubuntu, ROS, Gazebo, OpenCV, PCL, Git
Industrial	NI LabView, Beckhoff TwinCAT, ARENA, Stäubli VAL3, SolidEdge