

Ignacio Alzugaray

Curriculum Vitae

Unterfeldstrasse 104, Zürich 8050, Switzerland

Birthdate: 10/11/1992 | Nationality: Spanish

☎ +41(0)765124418

✉ alzugaray.ign@gmail.com

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 submitted to ICRA2017 (Decision Pending).
- 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)**
CPU-only 6-DoF SLAM with a single event-based camera. Supervisor: Prof. Margarita Chli.
Paper submitted to CVPR2017 (Decision Pending).
- 02/2016 **Research Assistant Intern.**
- 06/2015 **Institute of Robotics and Industrial Informatics IRI (UPC-CSIC)**
Improvement of path planning algorithms learning from expert pilots' knowledge. Supervisor: Prof. Alberto Sanfeliu. Paper accepted in IROS2016.
- 07/2014 **Undergraduate Research Assistant.**
- 10/2013 **Andalusian Institute of Advanced Robotics and Automatics (IA3R)**
Designing and implementation of trajectory control algorithms for industrial arm robots applied to laparoscopic surgery. Supervisor: Phd. Carlos Perez del Pulgar.

Teaching Experience

- Present **Master's Student Supervisor.**
- 09/2016 **ETH Zürich – Vision for Robotics Lab (V4RL)**
Thesis: *Path planning for UAVs with Visual-Inertial SLAM.* Collaboration with IBM.
- 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.
- 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 implementation of way-point path planning and control algorithms. Supervisor: Anthony Mandow.

Publications

- [C3] I. Alzugaray, W. Schwarting, D. Stanciu and M. Chli. CPU-only Gradient Map Reconstruction and 6-DoF Tracking in a Planar Scene using a single Event Camera. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Honolulu, Hawaii, 2017. **Decision Pending.**
- [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. **Decision Pending.**
- [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 Undergraduate Research Fellowship. *Spanish Ministry of Education*.

Languages

Spanish	Native	
English	Fluent	<i>B2.2 University of Cambridge (2013)</i>
German	Basic	<i>A2.2 University of Zürich (2016)</i>

Skills

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

Interests

- | | |
|-----------|-----------|
| - Cooking | - Reading |
| - Jazz | - Hiking |