

Ignacio Alzugaray

Curriculum Vitae

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

- Present **PhD. Candidate.**
02/2017 *ETH Zürich – Vision for Robotics Lab (V4RL), Switzerland*
Asynchronous Event-based SLAM for real-time robotic applications.
Supervisor: Prof. Margarita Chli.
- 2016 **Master Degree with honors in Automatic Control and Robotics.**
Polytechnic University of Catalonia (UPC), Spain. GPA – 8.70/10
Top student in Master's degree program (2014-2016).
Master Thesis: *Path planning for MAVs with vision in the loop.*
- Advisor: Prof. Margarita Chli. Grade: 5.75/6. ETH Zürich – International student exchange.
- Accepted as a paper in the *International Conference on Robotics and Automation (ICRA 2017)*.
- 2014 **Bachelor Degree with honors in Industrial Engineering.**
University of Malaga (UMA), Spain. GPA – 8.49/10
Top student in Bachelor's degree program (2010-2014). Best Bachelor Thesis' Award.
Thesis: *Teleoperation of Robotic Manipulators applied to Laparoscopic Surgery.*
- Advisor: Dr. Carlos Perez del Pulgar. Grade: 9.5/10.

Experience

- Present **Reviewer of Scientific Publications.**
ICRA ('17,'18,'19), IROS ('19), 3DV ('18, '19), RA-L ('18,'19), CVPR ('18), IJCV ('19).
- 12/2019 **Software Engineer Intern.**
09/2019 *Disney Research, Zurich*
Development of animation tools employing hand tracking and gesture recognition in VR.
- 02/2017 **Research Assistant.**
09/2016 *ETH Zürich – Vision for Robotics Lab (V4RL), Switzerland*
Research on CPU-only mapping with event-based cameras and active monocular-inertial SLAM.
- 02/2016 **Research Assistant Intern.**
06/2015 *Institute of Robotics and Industrial Informatics (IRI - UPC - CSIC), Spain*
Research on improvement of path planning algorithms learning from 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), Spain*
Research on trajectory control algorithms for robotic arms applied to laparoscopic surgery.
Supervisor: Dr. Carlos Perez del Pulgar.
- 09/2013 **Undergraduate Teaching Assistant Intern.**
07/2013 *Department of Applied Mathematics. University of Malaga (UMA), Spain*
Simulation of numerical methods applied to differential equations for teaching purposes.
Supervised by: Prof. Jose Manuel Gonzalez Vida.

Awards and Scholarships

- 2016 **Best Master's Degree Academic Record (2014-2016).**
Polytechnic University of Catalonia (UPC), Spain
Award granted to the student with the top academic performance during the Master's degree program according. The recipient is granted with an internship sponsored by KUKA AG.
- 2016 **International Student Scholarship.**
ETH Zürich, Switzerland. Swiss-European Mobility Programme.
Competitive scholarship granted to students in an international exchange programme.
- 2014 **Excellence Scholarship in Master's Programme.**
Polytechnic University of Catalonia (UPC) and Catalunya-La Pedrera Foundation, Spain.
Two-years scholarship granted to the student with the best academic record applying to a Master's degree program.
- 2014 **Best Graduate Academic Record and Best Bachelor's Thesis (2010–2014).**
University of Malaga (UMA), Spain.
Award granted to the top student in the Bachelor's Degree program according to academic performance and quality of the undergraduate thesis.

Publications

- [C5] I. Alzugaray and M. Chli. **Asynchronous Multi-hypothesis Tracking of features with Event Cameras.** In *International Conference on 3D Vision (3DV)*. Quebec, Canada, 2019. Oral presentation.
- [C4] I. Alzugaray and M. Chli. **ACE: An Efficient Asynchronous Corner Tracker for Event Cameras.** In *International Conference on 3D Vision (3DV)*. Verona, Italy, 2018.
- [J1] I. Alzugaray and M. Chli. **Asynchronous Corner Detection and Tracking for Event Cameras in Real Time.** In *IEEE Robotics and Automation Letters (RA-L)*, 2018.
- [C3] L. Teixeira, I. Alzugaray and M. Chli. **Autonomous Aerial Inspection Using Visual-Inertial Robust Localization and Mapping.** In *Conference on Field and Service Robotics (FSR)*. Zurich, Switzerland, 2017.
- [C2] I. Alzugaray, L. Teixeira 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.

Languages

Spanish **Native**

English **Fluent**

German **Intermediate**

B2.2 University of Cambridge (2013)

B1.1 University of Zürich (2017)

Skills

Languages C++, MATLAB, C#, Python, SIMULINK, L^AT_EX
Frameworks ROS, Unity, PyTorch, OpenCV, Gazebo, Git