europass Curriculum vitae

PERSONAL INFORMATION

Brayan Stiven Zapata Impata

Elche (Spain)

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https://yayaneath.github.io/

WORK EXPERIENCE

01/04/2017–Present

Robotics Research Engineer

AUROVA Research Group, University of Alicante, Alicante (Spain)

Involved in both research and engineering tasks. I am in charge of designing experiments, developing the entire stack (from hardware to software), evaluating and reporting results. This work is mainly focused on achieving autonomous robotic grasping, grasp assessment and control using visual and tactile perception, as well as libraries like Pytorch, TensorFlow, ROS and PCL.

01/05/2018–30/09/2018

Research Internship

The Helping Hands Lab, Northeastern University, Boston (United States)

Designed and implemented a mobile manipulator system, focusing mainly on providing it with autonomy through the software (task planning, grasping, mobility). I was also in charge of testing it on the task of collecting and transporting a variety of objects in a challenging environment. Our goal was building a robot which could help people at farms, construction sites and cities.

03/2018–05/2018

External Consultant on Computer Vision

Critical Future LTD, London (United Kingdom)

Led the development of a working solution for a health-care company to classify skin cancer from pictures of skin moles, so it could help people recognize potential skin problems. During this work I collaborated with health experts on the design of the system using deep learning techniques, which later implemented and deployed it using TensorFlow.

07/2015–12/2016

Business Intelligence Developer

Teralco, El Altet (Spain)

Responsible for the maintenance of databases in AWS Redshift as well as the analysis and implementation of changes to the models. I also collaborated with marketing staff and analysts in data analysis projects (e.g. client segmentation), proposing ways to apply AI to the business problems.

EDUCATION AND TRAINING

10/2016–Present

Doctor of Philosophy (PhD), Robotics and Machine Learning

University of Alicante, Alicante (Spain)

I research on Robotic Grasping regarding contact points calculus, grasp assessment and dexterous manipulation. To achieve this, I work in Machine Learning and Computer Vision applied to Pattern Recognition using 2D images, 3D point clouds and tactile data. Some of the techniques I am applying are CNNs, LSTMs and GANs, as well as libraries/frameworks like ROS, PCL, Pytorch and TensorFlow.

09/2015–02/2017

Master's degree on Computer Engineering (9.46/10.00)

University of Alicante, Alicante (Spain)

Specialised in the application of information technologies in R&D, including applied artificial intelligence. My master's thesis, graded with honours, was on the design and implementation of a tool for the reutilisation of open research data in machine learning projects based on TensorFlow.

09/2011–07/2015

Bachelor's degree on Computer Engineering (9.08/10.00)

University of Alicante, Alicante (Spain)

Specialised on data mining, computer vision, robotics and artificial intelligence. My bachelor's thesis, graded with honours, was on the application of swarm intelligence techniques for improving the performance of a clinical decision support system.

PERSONAL SKILLS

Mother tongue(s): Spanish

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
	English B2 Upper-Intermediate by Spanish Official School of Languages English C1 by University of Alicante				

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

Job-related skills: Great command of C++, Python and Matlab. Comfortable with Git, Docker and Linux. Experienced on ROS, PCL, Pytorch, TensorFlow and Keras. Deep understanding of robotics (kinematics, planning, perception) and machine learning (classic, deep learning, reinforcement learning).

ADDITIONAL INFORMATION

Featured Publications

Zapata-Impata, B. S., Mateo, C. M., Gil, P., & Pomares, J. (2017). **Using Geometry to Detect Grasping Points on 3D Unknown Point Cloud**. *14th International Conference on Informatics in Control, Automation and Robotics*, *ICINCO*, 154–161. https://doi.org/10.5220/0006470701540161. Best Paper Award (Speaker).

Zapata-Impata, B. S., Gil, P., & Torres, F. (2018). **Non-Matrix Tactile Sensors: How Can Be Exploited Their Local Connectivity For Predicting Grasp Stability?** *In IEEE/RSJ IROS 2018 Workshop RoboTac: New Progress in Tactile Perception and Learning in Robotics* (pp. 1–4). Retrieved from http://arxiv.org/abs/1809.05551

Zapata-Impata, B. S., Gil, P., & Torres, F. (2019). **vision2tactile: Feeling Touch by Sight.** *In Robotics: Science and Systems (RSS 2019). Workshop on Closing the Reality Gap in Sim2real Transfer for Robotic Manipulation*. https://sim2real.github.io/assets/papers/zapata.pdf

Zapata-Impata, B. S., Gil, P., Pomares, J., & Torres, F. (2019). **Fast Geometry-based Computation of Grasping Points on 3D Point Clouds.** *International Journal of Advanced Robotic Systems*, 16(1). https://doi.org/10.1177/1729881419831846

Honours and awards

FPI grant by the Spanish Ministry of Economy and Competitiveness (2017). Competitive national grant for supporting PhD studies (4 years). Only 1000 scholarships are available every year.

Master's Degree Best Academic Record Award (2017). Award given to the best record.

Research Collaboration grant by the Spanish Ministry of Education, Culture and Sports (2015). Competitive national grant for supporting undergraduate research internships (6 months).

Memberships

Institute of Electrical and Electronics Engineers (IEEE) - Graduate Student Member

IEEE Robotics and Automation Society (RAS) - Graduate Student Member

IEEE Young Professionals Spain - Vice President

Spanish Association for Pattern Recognition and Image Analysis (AERFAI) - Graduate Student Member