Víctor Massagué Respall

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EDUCATION

INNOPOLIS UNIVERSITY | Master in Robotics with Honours
GPA: 3.81/4.00 | Aug. 2018 - July 2020 | Innopolis, Russia

INNOPOLIS UNIVERSITY | Exchange Program - Bachelor in Computer Science
Aug. 2017 - Jun. 2018 | Innopolis, Russia

POLYTECHNIC UNIVERSITY OF CATALONIA | Bachelor in Computer Science - Computing Specialization
Sept. 2014 - Jun. 2018 | Barcelona, Spain

PUBLICATIONS

THESIS

- Victor Massagué Respall. **"Unmanned Aerial Vehicle Path Planning for Exploration Mapping."** Master's Thesis, Innopolis University, 2020

- Victor Massagué Respall. **"Quoridor agent using Monte Carlo Tree Search."** Bachelor's thesis, Universitat Politècnica de Catalunya, 2018. [pdf | Github]

PREPRINT

- Victor Massagué Respall, Dmitry Devitt, Roman Fedorenko, and Alexandr Klimchik. **"Fast Sampling-based Next-Best-View Exploration Algorithm for a MAV."** , 2020. (Submitted to ICRA 2021)

- Victor Massagué Respall, and Stefano Nolfi. **"Development of Multiple Behaviors in Evolving Robots."** , 2020. (Submitted to Robotics Journal MDPI)

- Victor Massagué Respall, Dmitry Devitt, and Roman Fedorenko. **"Unmanned Aerial Vehicle Path Planning for Exploration Mapping."** , 2020. [pdf | video] (Accepted at NIR 2020)

CONFERENCE

- Victor Massagué Respall, Sami Sellami, and Ilya Afanasyev. **"Implementation of Autonomous Visual Detection, Tracking and Landing for AR. Drone 2.0 Quadcopter."** In The 12th International Conference on the Developments in eSystems Engineering, August 2019. [pdf | Github]

- Victor Massagué Respall, Joseph Alexander Brown, and Hamna Aslam. **"Monte Carlo Tree Search for Quoridor."** In 19th International Conference on Intelligent Games and Simulation, GAME-ON, September 2018. [pdf | Github]

EXPERIENCE

ROBOTICS ENGINEER | Autonomous Transport Systems Lab
Jul. 2020 – Present | Innopolis University, Russia
Development of algorithms and software for autonomous UAV indoor and outdoor inspections.

TEACHING ASSISTANT | Dynamics of Non-Linear Systems
Aug 2020 – Dec 2020 | Innopolis University, Russia
Course that teaches fundamentals of robotics to first year master students and forth year bachelor students.

RESEARCH INTERN | Autonomous Transport Systems Lab
June 2019 – July 2019 | Innopolis University, Russia
During the internship, a complete algorithm based on Next-Best-View planner was developed to explore, using the drone DJI M100, a bounded unknown area equipped with Velodyne LIDAR to build a 3D map online of the environment.

SELECTED PROJECTS

THE ROLE OF MODULARITY AND NEURO-REGULATION FOR THE PRODUCTION OF MULTIPLE BEHAVIORS | Experimentation of neuro-modularity for producing different behaviors
April 2020 - May 2020 | Innopolis University, Innopolis, Russia
The project involves the implementation of regulatory networks of this type and the realization of experiments involving the production of different behaviors. [pdf | Github]

GEOMETRIC AND STIFFNESS MODELING AND DESIGN OF CALIBRATION EXPERIMENTS FOR THE 7 DOF SERIAL MANIPULATOR KUKA IIWA 14 R820 | Calibration process for noise reduction
Feb 2019 - May 2019 | Innopolis University, Innopolis, Russia
The present project deals with the elastostatic modeling and calibration experiment of industrial manipulators using an optimal selection of measurements pose for the calibration procedure. [pdf | Github]

STANCE DETECTION IN CATALAN AND SPANISH TWEETS | Simple technique for stance detection using Independence of Catalonia tweets
Nov 2017 - Dec 2017 | Innopolis University, Innopolis, Russia
Stance is given an ongoing interaction, the way speakers place themselves in it. It is described a simple technique for stance detection using Independence of Catalonia tweets. It is used word2vec word embedding features for this detection. The system had produce a best result for Spanish tweets as compare to other participants in IberEval 2017. [pdf | Github]

ROBOLANG | Parser for a robot programing language
Feb 2017 - June 2017 | Polytechnic University of Catalonia, Barcelona, Spain
Worked with two colleagues developing a parser for a robot and an implementation of a simulator to test it. We were provided with a NXT Lego Mindstorm. The project was done with Java and ANTLR3. [Github]

HETESIM | UI to display, modify and search nodes in a Graph
Feb 2016 – May 2016 | Polytechnic University of Catalonia, Barcelona, Spain
HeteSim is a program to make relational (and normal/simple) searches in a database composed as a graph, using the hetesim measure for relatedness in heterogeneous graphs. The database used for the implementation is the collection of names from different items (of different types) from a computer science public library. [Github]

HOME AUTOMATION MODEL | An intelligent home model with Arduino
May 2013 – Dec 2013 | INS Molí de la Vila, Capellades, Spain
It consists in a model of 80x50cm of a house, applying different automatons for instance sensors for the lights of the garden when it is getting dark or an automated garage door when a car gets closer. The whole project is composed of two Arduino cells.

SKILLS

TECHNICAL SKILLS
Proficient with:
Python • C++ • Matlab • LaTeX
• Java • ROS • Git • Linux
Familiar with:
MIPS • C • Android • Arduino
Prolog • Haskell • Bash • Docker

SPOKEN & WRITTEN SKILLS
Native:
Catalan, Spanish
Advanced:
English

SCHOLARSHIPS/AWARDS

Full scholarship for graduate studies
Aug 2018 - Jun 2020 | Innopolis, Russia

Diploma for outstanding academic achievements in fall semester 2019 at Innopolis University
Jan 2020 | Innopolis, Russia

Diploma for outstanding achievements and priceless contribution to student community and campus life in Innopolis University in year of 2020
July 2020 | Innopolis, Russia

LINKS

Personal Website • Research Gate • Google Scholar • Github