

# Víctor Massagué Respal

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## EDUCATION

### INNOPOLIS UNIVERSITY | MASTER IN ROBOTICS

Aug. 2018 - Expected June 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

- Víctor Massagué Respal. **"Unmanned Aerial Vehicle Path Planning for Exploration Mapping."** Master's Thesis, Innopolis University, 2020 (Defense Pending)
- Víctor Massagué Respal. **"Quoridor agent using Monte Carlo Tree Search."** Bachelor's thesis, Universitat Politècnica de Catalunya, 2018. [pdf | Github]

### PREPRINT

- Víctor Massagué Respal, Dmitry Devitt, and Roman Fedorenko. **"Unmanned Aerial Vehicle Path Planning for Exploration Mapping."**, 2020. [pdf | video]

### CONFERENCE

- Víctor Massagué Respal, 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]
- Víctor Massagué Respal, 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

### INNOPOLIS UNIVERSITY | RESEARCH INTERNSHIP ON UAV-BASED EXPLORATION OF UNKNOWN TERRAIN AT THE 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.

## PROJECTS

### 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]

### DOCUMENT SIMILARITY | ALGORITHM TO DETECT SIMILARITY BETWEEN DOCUMENTS

Sept 2016 – Dec 2016 | Polytechnic University of Catalonia, Barcelona, Spain

Detecting similarity between documents using hashing (Jaccard Similarity, Minhash Similarity and LSH Similarity). The project has been done with C++. [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.

## SCHOLARSHIPS/AWARDS

### **FULL SCHOLARSHIP FOR GRADUATE STUDIES | INNOPOLIS UNIVERSITY**

Aug 2018 - Jun 2020 | Innopolis, Russia

### **DIPLOMA FOR OUTSTANDING ACADEMIC ACHIEVEMENTS IN FALL SEMESTER 2019 | INNOPOLIS UNIVERSITY**

Jan 2020 | Innopolis, Russia

## SKILLS

### **TECHNICAL SKILLS**

Proficient with:

Python • C++ • Matlab •  $\text{\LaTeX}$   
• Java • ROS • Git • Linux

Familiar with:

MIPS • C • Android • Arduino  
Prolog • Haskell • Bash • Docker

### **SPOKEN & WRITTEN SKILLS**

Native:

Catalan, Spanish

Advanced:

English

## LINKS

**Personal Website** which contains detailed information of my professional career

**Research Gate / Google Scholar** which contains my publications and current research projects

**Github** which contains open-source codes of some of my projects