

# João Cartucho

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## EDUCATION

### Instituto Superior Técnico

Lisbon, Portugal — 2014-2018

B.Sc., M.Sc. Aerospace Eng. (Avg. 18/20)  
(Focus: Computer Science)

### Coursework

Programming (C, 19/20),  
Autonomous Systems (Python, 19/20),  
Artificial Intelligence (C++, 27/30),  
Communications System (C#, 30/30),  
Object-Oriented Prog. (Java, 30/30),  
Optimized Algorithms (Python, 27/30)

## SKILLS

**Languages** Portuguese, English, Italian

**Programming** C, C++, Python, Java

**Platform** Linux

**Software** Git, OpenCV, ROS, Shell

## AWARDS

### FCT Scholarship - IST/CMU

Chosen for a 3-month long student  
exchange program in USA.

### Google Summer of Code

Attended twice as an OpenCV's software  
developer.

### 2nd place at a CMU's Hackathon

Implemented a robotic pancake maker.

## REFERENCES

### Manuela Veloso

Machine Learning Department  
School of Computer Science  
Carnegie Mellon University  
mmv@cs.cmu.edu

### Vincent Rabaud

Google Inc., Senior Software Engineer  
OpenCV Foundation, Co-founder  
vincent.rabaud@gmail.com

09.27.2018

## EXPERIENCE

### RoboCup

2018

RoboCup @Home

Montréal, Canada

- Part of the SocRob@Home team I was responsible for the Computer Vision tasks.
- Became member of the RoboCup Organizing Committee.

### Carnegie Mellon University

2017

Machine Learning, Student Internship

Pittsburgh, PA, USA

- Developed an algorithm for a robot to automatically learn to detect the surrounding objects by asking for help from humans. Advised by Professor Manuela Veloso.

### OpenCV - Google Summer of Code

2016 and 2017 (twice)

Open source, Mentored by Vincent Rabaud

Added software to OpenCV (Computer Vision library):

- Tools for multi-language tutorials (web development);
- Python and Java code tests;
- Function/method prototypes for the Python bindings;
- 20 updated tutorials (in C++, Java and Python).

## PROJECTS

### mAP Individual Project, March 2018

An open source tool to evaluate the performance of an object  
detector.

Currently has 250 stars and 79 forks on GitHub.

### OpenLabeling Individual Project, February 2018

An open source image labeling tool.

Currently has 253 stars and 64 forks on GitHub.

## PUBLICATIONS

### Robust Object Recognition Through Symbiotic Deep Learning In Mobile Robots

J. Cartucho, R. Ventura, M. Veloso. IROS 2018.

### Towards a Robust Interactive and Learning Social Robot

M. Jong, K. Zhang, T. Rhodes, A. Roth, R. Schmucker, C. Zhou, S. Ferreira, J. Cartucho, M. Veloso. AAMAS 2018.

## VOLUNTEERING

**StackOverflow** Helped over 350,000 people (unique viewers to my questions and posted answers).

**Youth Exchanges in** Italy, Turkey, Greece, Romania, Finland.