# João Cartucho

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## **EDUCATION**

#### Instituto Superior Técnico

Lisbon, Portugal – 2014-2018 B.Sc., M.Sc. Aerospace Engineering

#### Politecnico di Torino

Torino, Italy — 2016 Erasmus in computer science courses

## SKILLS

**Languages** Portuguese, English, Italian

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

**Platform** Linux

Software Git, OpenCV, ROS, Shell

**Coursework** Algorithms, Artificial Intelligence, Autonomous Systems, Computer Vision, Data Structures

# **AWARDS**

#### FCT Scholarship - IST/CMU

Selected for 3-month long student exchange program in USA.

#### **Google Summer of Code**

Selected twice (maximum) and successfully completed my 2016 and 2017 projects.

#### **Academic Merit Diploma**

# 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

### **EXPERIENCE**

**RoboCup** 2018

RoboCup@Home

Montréal, Canada

 Leading the Computer Vision tasks of MBot at the SocRob@Home team.

#### **Carnegie Mellon University**

2017

Machine Learning, Student Internship

Pittsburgh, PA, USA

 Designed and implemented a system for a robot to classify and proactively learn new objects by asking for help from humans. Advised by Manuela Veloso.

#### **OpenCV - Google Summer of Code**

2016 and 2017 (twice)

Open source, Advised by Vincent Rabaud

- Added to OpenCV (Computer Vision library):
  - Python and Java code tests;
  - Function/method prototypes for the Python bindings;

Tools for multi-language tutorials (web development);

• 20 updated tutorials (in C++, Java and Python).

## **PROJECTS**

**OpenLabeling** Individual Project An open source image labeling tool. Currently has 205 stars and 39 forks on GitHub.

#### **mAP** Individual Project

An open source tool to evaluate the performance of your neural net for object detection with the mAP (mean Average Precision) score. Currently has 103 stars and 31 forks on GitHub.

# **PUBLICATIONS**

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

J. Cartucho, R. Ventura, M. Veloso. Submitted to 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. Accepted to AAMAS 2018.

# VOLUNTEERING

**StackOverflow** Helped over 300,000 people.

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