

# Renato Martins

COMPUTER VISION · ROBOTICS · APPLIED MACHINE LEARNING · AUTONOMOUS SYSTEMS

Personal Information: Brazilian, 34 years old  
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I am currently a postdoctoral researcher at INRIA Sophia Antipolis, working on Computer Vision and Robotics problems, in particular on applied machine learning for visual navigation, human motion estimation and animation, image understanding and synthesis. I want to be part of projects in the domains of computer vision, applied machine learning and robotics that will change our interaction and habits.

## Education

### Ecole des Mines de Paris & INRIA Sophia Antipolis

PHD IN COMPUTER SCIENCE (TOPICS: COMPUTER VISION AND ROBOTICS)

- Title: Direct visual odometry and dense large-scale environment mapping from panoramic RGB-D images.

Sophia Antipolis, France

Dec. 2013 - Oct. 2017

### University of Campinas

MSc IN ELECTRICAL ENGINEERING, GPA: 4/4 (TOPICS: SENSOR FUSION, AUTONOMOUS VEHICLES, NAVIGATION)

Campinas, Brazil

Aug. 2011 - Sept. 2013

### University of Campinas

ENGINEER DEGREE IN CONTROL AND AUTOMATION ENGINEERING, GPA: 7.8/10

Campinas, Brazil

March. 2005 - Dec. 2010

## Experience & Competences

Complete list of publications (Google scholar): [scholar.google.com/citations?user=bs2yAMUAAAAJ](https://scholar.google.com/citations?user=bs2yAMUAAAAJ)

Source codes and GitHub contributions: <https://github.com/renatojmsdh>

### Qualifications Summary

- Software: TensorFlow-Keras, Pytorch, OpenCV, PCL, Git;
- Programming languages: C++, Python, C, Matlab, Java, JSP-Servlets;
- Operating systems: GNU/Linux (Ubuntu, Fedora), ROS and Windows;
- Good communication and problem solving skills.

### Experience and Internships

#### INRIA

POST-DOCTORAL RESEARCHER

- My activities are in the context of project MOBIDEEP (technology-aided MOBility by semantic DEEP learning);
- I am currently carrying three projects on the intersection of computer vision, robotics and deep machine learning:
  - Deep visual navigation from semantic information;
  - Generative models for inpainting panoramic images;
  - Image-to-image translation for domain adaptation.

Sophia Antipolis, France

Apr. 2019 - ongoing

#### Universidade Federal de Minas Gerais, UFMG

TEACHING & RESEARCH ASSISTANT

- Teaching assistant of "Algorithms and Data Structures" and "Introduction to Robotics".
- Developed Projects:
  - 3D semantic mapping. Code Github: [github.com/verlab/3DSemanticMapping\\_JINT\\_2020](https://github.com/verlab/3DSemanticMapping_JINT_2020)
  - Transferring human motion and appearance between videos. Project details: [www.verlab.dcc.ufmg.br/retargeting-motion](http://www.verlab.dcc.ufmg.br/retargeting-motion)
  - Learning descriptors invariant to non-rigid image deformations. Project details: [www.verlab.dcc.ufmg.br/descriptors](http://www.verlab.dcc.ufmg.br/descriptors)

Belo Horizonte, Brazil

Mar. 2018 - Mar. 2019

#### INRIA

RESEARCH INTERN

- I was part of a team developing visual perception strategies to allow robotic systems (autonomous robots, intelligent vehicles, smart cameras, humanoid robots) to interact with its environment and surroundings.
- Development of 3D reconstruction and SLAM algorithms for systems in real and challenging conditions (fast motions).

Sophia Antipolis, France

Dec. 2013 - Oct. 2017

#### Polytech'Nice & Université Cote d'Azur

TEACHING ASSISTANT

- Teaching assistant for Engineering and Computer Science students of "Numerical Analysis" and "Computer Systems".

Sophia Antipolis, France

Set. 2015 - Jun. 2016

- Automation and software engineer working in an electric vehicle project (VERO project). Activities in LIDAR signal processing, digital control and embedded systems.

### **Language Skills**

- French: Fluent in speaking and writing (C1 level);
- English: Fluent in speaking and writing (C1 level);
- Portuguese: Mother tongue.

## **Other Activities**

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### **Lockheed Martin Autonomous Drone Race Challenge**

*USA*

DEVELOPER (VISUAL PERCEPTION AND LEARNING TEAM)

*Dec. 2018 - Jun. 2019*

- I participated as software developer in the XQuad team, on the autonomous drone racing competition "Artificial Intelligence Robotic Racing", organized by Lockheed Martin and NVIDIA [www.lockheedmartin.com/en-us/news/events/ai-innovation-challenge.html](http://www.lockheedmartin.com/en-us/news/events/ai-innovation-challenge.html)
- Our team was one of the 9 finalist teams from around 400 competing teams around the world (being the only Latin American finalist). Webpage of the team: <https://xquadufmg.com/>

### **Academic Community Service**

REVIEWING ACTIVITIES:

- **International journals:** RAL Letters (2017-now), JVCI (2018-now), IJPRS (2018 -now).
- **International conferences:** ICCV (2017), IROS (2017 - now), ICRA (2017 - now), ICINCO (2017), IV (2018, 2019), ICAR (2019), ITSC (2019, 2020), WACV (2020).