

LUCAS COELHO FIGUEIREDO

29 years old ◇ lucascoelho@gmail.com ◇ <https://github.com/lucascoelho> ◇ +55 31 98504-5896

EDUCATION

Federal University of Minas Gerais	08/2015 - 06/2018
MSc in Electrical Engineering, emphasis in Control and Robotics	Belo Horizonte, Brazil
Thesis: Human-robot swarm interaction on multi-robot coverage control with Virtual Reality	
Udacity	01/2019 - 06/2019
Self-driving car Engineer Nanodegree, Term 1	
Rockstart Accelerator	08/2016 - 08/2016
Startup Acceleration Program, intensive course on entrepreneurship	Amsterdam, The Netherlands
Federal University of Minas Gerais	03/2010 - 07/2015
Bachelor in Control and Automation Engineering	Belo Horizonte, Brazil
The University of Texas at Austin	08/2013 - 05/2014
Exchange Program in Electrical Engineering and Computer Science	Austin, USA
Federal Center of Technological Education	05/2007 - 12/2009
High School and Technical Program in Electronics	Belo Horizonte, Brazil

EXPERIENCE

Hexagon Mining	11/2017 - Today
Software Specialist in Autonomous Vehicles	Belo Horizonte, Brazil
<ul style="list-style-type: none">· Worked on R&D projects in the context of autonomous vehicles for mining· Responsible for the robotics framework and architecture on the onboard Linux platform in C++, maintainer of Docker images for testing and production environments, main Python developer· Collaborated with teams across the world on 5 different projects, including a high precision GPS-based parking assist, a mission manager for autonomous trucks and an integration of an obstacle avoidance system to autonomous vehicles· Implemented highly reliable machine-to-machine communication using DDS in C++ (RTI and OpenSplice)· Developed mapping and obstacle avoidance solutions using cutting edge radar technology fused with GPS and IMU from NovAtel in C++ and Python· Coordinated deployment of autonomous vehicle management software in three sites across the world	
Freelance Android Developer	10/2016- 05/2019
Belo Horizonte, Brazil	
<ul style="list-style-type: none">· Developed Android apps for CEMIG and Minipa, raising requirements with clients, developing backend in Java and coordinating a designer	
Newatt Energy Systems	09/2015 - 08/2017
Co-Founder and CTO	Belo Horizonte, Brazil, and Amsterdam, The Netherlands
<ul style="list-style-type: none">· Designed embedded hardware and firmware for STM32 microcontrollers in a wireless energy sensor, using C++ and Python· Responsible for the technical decisions and relationship with partners and investors· Managed the team for the implementation of the cloud structure in Node.js and Python	
Equalizar	09/2015 - 02/2016
Volunteer teacher	Belo Horizonte, Brazil
<ul style="list-style-type: none">· Equalizar is a preparatory school for low-income students, helping them on admission exams in universities and technical schools· Worked as a teacher and tutor in physics and mathematics	

Multi-robot Systems Laboratory - Boston University

Summer Research Intern: 400 hours

05/2014 - 08/2014

Boston, USA

- Created algorithms for multi-robot systems applied in area coverage and autonomous exploration
- Developed embedded software for *m3pi* robots in C++
- Published academic results at ICRA 2015 and IJRR 2017

Computation and Robotics Lab - UFMG

Undergraduate Research Assistant: 2880 hours

10/2010 - 08/2013

Belo Horizonte, Brazil

- Developed algorithms for multi-robot coverage and UAV trajectory tracking using C++, ROS and MATLAB in Linux environment
- Large experience in ROS, working on it since Diamondback version (2011) and becoming reference on ROS for labmates and professors
- Designed, assembled, and customized five Turtlebots for indoor experiments
- Mapped the whole engineering department with gmapping SLAM using Kinect and LiDAR

AWARDS & GRANTS

Rockstart Smart Energy Program

Selected entrepreneur

02/2016 - 08/2016

Amsterdam, The Netherlands

- Selected as the top 10 among more than 500 startups across the world
- Received € 70.000 in investment from a Dutch accelerator (Rockstart)
- Participated in pitching competitions and investor meetings

Brazil Scientific Mobility Program

Awardee

08/2013 - 08/2014

Austin, USA

- Selected for the grant, that covered a year of studies at The University of Texas at Austin, including tuitions, housing, meals, travel expenses, and internship

PUBLICATIONS

Brazilian Automatics Congress

08/2018

- L. C. Figueiredo, I. L. Carvalho, L. C. A. Pimenta. "Voronoi Multi-Robot Coverage Control in Non-Convex Environments with Human Interaction in Virtual Reality"
- Experimental results at <https://www.youtube.com/watch?v=cpniwb6UrF8>

International Journal of Robotics Research (IJRR)

02/2017

- A. Pierson, L. C. Figueiredo, L. C. A. Pimenta, and M. Schwager. "Adapting to Sensing and Actuation Variations in Multi-Robot Coverage"

IEEE International Conference on Robotics and Automation (ICRA)

05/2015

- A. Pierson, L. C. Figueiredo, L. C. A. Pimenta, and M. Schwager. "Adapting to Performance Variations in Multi-Robot Coverage"
- Experimental results at <https://www.youtube.com/watch?v=qyYt3frZ7aw>

SKILLS

Programming

Proficient: C++, Python, ROS, RTI DDS, Git, Ubuntu
Average: Android, Java, OpenSplice DDS, C#, CMake, Docker, OpenCV, SQL
Beginner: Node.js, MATLAB, SQL, Jenkins, Yocto, PCL

Electronics

Arduino, Eagle

Office

Word, PowerPoint, Excel

Managerial

Scrum, Agile, Lean Startup

Other

LaTeX, UML

English

Fluent

Portuguese

Native

Hobbies

Photography, electronics projects, 3D printing, cooking, mountain biking