

LUCAS COELHO FIGUEIREDO

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EDUCATION

Federal University of Minas Gerais	08/2015 - 06/2018
Masters in Electrical Engineering	Belo Horizonte, Brazil
Thesis: Human-robot swarm interaction on multi-robot coverage control with Virtual Reality	
Rockstart Accelerator	08/2016 - 08/2016
Startup Acceleration Program <i>Rockstart Smart Energy</i>	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
Technical Program in Electronics	Belo Horizonte, Brazil

EXPERIENCE

Hexagon Mining	11/2017 - Today
Software Specialist & Scrum Master	Belo Horizonte, Brazil
<ul style="list-style-type: none">· Main Python and ROS developer of the team· Responsible for the Scrum process, meetings, managing conflicts between team members· Designed and participated on the development of solutions for autonomous trucks on mining industry, including a high precision, GPS-based parking assist and a mission manager for autonomous trucks· Developed peer-to-peer communication using DDS (RTI and OpenSplice)	
Newatt Energy Systems	09/2015 - 08/2017
Co-Founder and CTO	Belo Horizonte, Brazil and Amsterdam, The Netherlands
<ul style="list-style-type: none">· Responsible for the technical decisions and relationship with partners and investors· Coordinated the application for Google Cloud Platform for Startups Program and received U\$ 100,000 in credits· Managed the team for the implementation of the cloud structure in Node.js and Python· Implementation of embedded software in C++ for low power microcontrollers	
Multi-robot Systems Laboratory - Boston University	05/2014 - 08/2014
Summer Research Intern	Boston, USA
<ul style="list-style-type: none">· Created algorithms for multi-robot systems applied in area coverage and autonomous exploration· Developed embedded software for <i>m3pi</i> robots in C++· Published academic results at ICRA 2015 and IJRR 2017	
Computation and Robotics Lab - UFMG	10/2010 - 08/2013
Undergraduate Research Assistant and Electronics Technician Intern	Belo Horizonte, Brazil
<ul style="list-style-type: none">· Large experience in ROS, working on it since Diamondback version (2011) and becoming reference on ROS for labmates and professors· Designed and assembled five robots for indoor experiments based on the Open Hardware project Turtlebot· Software development in Linux environment using C++, ROS and MATLAB	

AWARDS AND GRANTS

Rockstart Smart Energy Program

Participant

02/2016 - 08/2016

Amsterdam, The Netherlands

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

Brazilian Science 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

Automatics Brazilian 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>

PROJECTS

Hexagon Reverse Assist

11/2017 - 03/2019

- Driver assistant system to help haul truck operators to park the vehicle safely. I worked implementing ROS nodes in C++, maintaining C++ code and implementing DDS topics using OpenSplice.
- More information here: <https://blog.hexagonmining.com/reverse-guidance-key-step-to-autonomous-haulage/>

Smartem Portable Calibrator

11/2016 - 01/2019

- A portable calibration lab for energy meters. I worked designing the hardware, and developing the Android application.
- More information here: <http://minipaelectric.com.br/produto/m100>

SKILLS

Programming	C, C++, Python, Robot Operating System - ROS C#, Java, Node.js Android, Google Cloud Platform, Amazon Web Services, MATLAB RTI DDS, OpenSplice DDS
Databases	MongoDB, PostgreSQL, InfluxDB
Electronics	Arduino, Eagle, Altium
Office	Word, PowerPoint, Excel, Visio
Managerial	Scrum, Agile, Lean Startup
Other	AutoCAD, 3ds Max, Ubuntu, LaTeX, JUnit, UML
English	Fluent
Portuguese	Native