LUCAS COELHO FIGUEIREDO

28 years old ◇ lucascoelhof@gmail.com ◇ https://github.com/lucascoelhof ◇ http://lucascoelho.net

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 *Rockstart Smart Energy* 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 in Autonomous Vehicles & Scrum Master Belo Horizonte, Brazil

- 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)
- Designed an integration with a Collision Avoidance System to improve safety of autonomous vehicles with manned vehicles and personnel

Newatt Energy Systems 09/2015 - 08/2017
Co-Founder and CTO Belo Horizonte, Brazil and Amsterdam, The Netherlands

- 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

- 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 10/2010 - 08/2013
Undergraduate Research Assistant and Electronics Technician Intern Belo Horizonte, Brazil

- 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 02/2016 - 08/2016
Participant 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 08/2013 - 08/2014
Awardee 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
Electronics	Arduino, Eagle
Office	Word, PowerPoint, Excel, Visio
Managerial	Scrum, Agile, Lean Startup
Other	AutoCAD, 3ds Max, Ubuntu, LaTeX, JUnit, UML
English	Fluent
Portuguese	Native