LUCAS COELHO FIGUEIREDO

29 years old ◊ lucascoelhof@gmail.com ◊ https://github.com/lucascoelhof ◊ +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

· Worked on R&D projects in the context of autonomous vehicles for mining
· Responsible for the ROS 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 (RTI and OpenSplice)
· Developed mapping and obstacle avoidance solutions using cutting edge radar technology fused with GPS and IMU from NovAtel
· Coordinated deployment of autonomous vehicle management software in three sites across the world

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

· Designed embedded hardware and firmware for STM32 microcontrollers in a wireless energy sensor
· 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

· 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   05/2014 - 08/2014
Summer Research Intern: 400 hours   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 & CONFERENCES

ROSCon
Participant

10/31/2019 - 01/11/2019
Macau

· Participated in the largest ROS community event, gaining insight of the market, best practices, and developed networking

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, OpenSplice DDS, C#, CMake, Docker, OpenCV
	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, mountain biking