Eduardo Moura Cirilo Rocha

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EDUCATION

M.S. in Agricultural Engineering (January 2018 - Expected December 2019)
University of Wisconsin-Madison

- Focus in physics based controls and machine learning applications.
- Research Assistantship recipient.
- Current GPA: 3.9/4.
- Thesis: Assessing corn kernel particle size distribution in chopped and processed corn silage and earlage via image analysis.

B.S. in Automation and Control Engineering (August 2012 - December 2017)
University of Brasilia, Brazil

- GPA: 4.3/5. First in a class of 40.

Visiting International Student (August 2015 - August 2016)
University of Wisconsin-Madison

- Brazil Scientific Mobility Program fully-funded scholarship recipient.
- Exchange & Visiting International Student Academic Excellence Award recipient for Fall 2015.
- GPA: 3.9/4.

EXPERIENCE

Product Engineering Intern, John Deere Intelligent Solutions Group (May 2019 - Present)

Research Assistenship, University of Wisconsin-Madison (January 2018 - Present)

- Design of a new method to assess corn kernel particle size distribution in chopped and processed corn silage and earlage via image analysis and deep learning techniques.
- Helped in multiple projects, including optimization of vehicle traffic for silage harvesting, and study of the effects of soil compaction in crop yield for vehicle traffic control.

Internship at Mechatronics Laboratory, University of Wisconsin-Madison (May 2016 - August 2016)

- Designed and fabricated an injection pump for use in 4D Neuroangiography for use on the Wisconsin Institutes for Medical Research.
- Responsible for all the mechanical, electrical and automation parts of the project.

Lab Assistant at Laboratory of Aerial Robotics, University of Brasilia (March 2014 - July 2017)

- Designed and assembled autonomous unmanned aerial vehicles.
- Implemented algorithms for cooperative control of multiple aircrafts in simulation and real environments.
- Projected and implemented an algorithm to calibrate IMUs using a gyroscope.

SKILLS

Programming Languages:	C, C++ (OpenCV), Python (TensorFlow), R, Matlab (Control System, ML and DL Toolboxes).
Other Tools and Software:	Simulink, SolidWorks, AutoCAD, LaTex, git, Ansys (structural analysis).
Hardware:	PLC (Rockwell Automation and B&R), Gumstix Overo COM, VHDL, Microcontroller MSP430 (Texas Instruments), Arduino.
Operational Systems:	Linux, Mac OS X, Microsoft Windows.

ACADEMIC RESEARCH AND PROJECTS

Research Project: Development of a Corn Silage Image Processing App
University of Wisconsin-Madison (November 2015 - May 2016)

- Developed a mobile application capable to assess corn kernel particle size distribution in water separated corn silage using image analysis methods.
- Application is available for IOS and Android: SilageSnap.

Extension Project: UnBeatables
University of Brasilia (January 2017 - December 2017)

- Developed behavioral algorithms for control of autonomous humanoid robots in robotic soccer competitions (Latin American and Brazilian Robotics Competition, and RoboCup).
- As part of a social project, I frequently took the robots to public schools and hospitals to teach about robotics.

Competition team: Draco Volans - Aerodesign
University of Brasilia (December 2013 - August 2016)

- Member of the Structural team, developed algorithms for structural optimization of aircraft and structural simulation with isotropic and orthotropic materials.

EXTRACURRICULAR ACTIVITIES

- Data Structures undergrad teaching assistant, University of Brasilia (March 2014 - July 2014, March 2015 - July 2015)
- Digital Circuits undergrad teaching assistant, University of Brasilia (August 2014 - December 2014)
- Speaker of the program International Reach Cross-Cultural Speakers Program, University of Wisconsin-Madison (September 2015 - August 2016)
- Portuguese tutor in the program Greater University Tutoring Service, University of Wisconsin-Madison (January 2016 - August 2016)

LANGUAGES

Portuguese (native), English (fluent), Spanish (advanced), German (intermediate), Polish (begginer)