EDUARDO ROCHA

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EXPERIENCE

Product Engineering Intern

John Deere Intelligent Solutions Group
Automation Delivery Organization

May 2019 – Present Iowa, US

- Used Computer Vision and Deep Learning techniques for Image Classification and Semantic Segmentation (Python, C++, OpenCV, Tensorflow, Sklearn).
- Implemented control systems for electric linear actuators (system linearization, classical controls, electrical system design).

Research Assistant

University of Wisconsin-Madison

Jan 2018 – Present Wisconsin, US

- Designed 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 (Matlab DL TB, Python, Tensorflow, R).

Mechatronics Laboratory Intern

University of Wisconsin-Madison

May 2016 – Aug 2016 Wisconsin, US

- Designed and fabricated an injection pump for use in 4D Neuroangiography in the Wisconsin Institute for Medical Research (CNC machining, 3D scanning and printing, PLC, classical controls).

Lab Assistant

Laboratory of Aerial Robotics, Universidade de Brasilia

Mar 2014 – July 2017 Brasília, Brazil

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

SKILLS

C++, Python, Keras, Matlab, OpenCV
Tensorflow, R, git, docker, Unix

Portuguese, English
Spanish, German
Polish

EDUCATION

MS Biological Systems Engineering

University of Wisconsin-Madison

Jan 2018 – **Dec 2019** GPA: 3.85/4

- Focus in Modern Controls and Machine Learning applications.
- Thesis: Assessing Corn Kernel Particle Size Distribution in Chopped and Processed Corn Silage and Earlage via Image Analysis.

BS Mechatronics Engineering

Universidade de Brasília, Brazil
University of Wisconsin-Madison

Aug 2012 – Dec 2017 GPA: 4.3/5

- Graduated first in a class of 40.
- Brazil Scientific Mobility Program fully-funded scholarship recipient.
- Exchange & Visiting International Student Academic Excellence Award recipient for Fall 2015, University of Wisconsin-Madison.

PROJECTS

Research Project: SilageSnap App

- Developed a mobile application capable to assess corn kernel particle size distribution in water separated corn silage using image analysis methods (C++, OpenCV, Swift).
- Application is available for IOS and Android.

Extension Project: UnBeatables

- Developed behavioral algorithms for control of autonomous humanoid robots in robotic soccer competitions - Latin American and Brazilian Robotics Competition, and RoboCup (C++).
- Took the robots to public schools and hospitals as part of a social program.

Competition team: Draco Volans

- Developed algorithms for structural optimization of aircraft and structural simulation with isotropic and orthotropic materials (C, Matlab, Ansys APDL).

EXTRACURRICULAR

- Data Structures undergrad teaching assistant, Universidade de Brasilia (Spring 2014, Spring 2015)
- Digital Circuits undergrad teaching assistant, Universidade de Brasilia (Fall 2014)
- Speaker of the program International Reach Cross-Cultural Speakers Program, UW-Madison (Sep 2015 – Aug 2016)
- Portuguese tutor in the program Greater University Tutoring Service, UW-Madison (Jan 2016 – Aug 2016)