

# Erivelton Gualter dos Santos

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CONTACT INFORMATION	740 West Superior Ave, 305 Cleveland, OH 44115 +01-216-466-3989	E-mail: <a href="mailto:erivelton.gualter@gmail.com">erivelton.gualter@gmail.com</a> Personal Website: <a href="http://eriveltongualter.io">eriveltongualter.io</a> Linkedin: <a href="https://www.linkedin.com/in/tinyurl.com/gualter-linkedin">tinyurl.com/gualter-linkedin</a> Github: <a href="https://www.github.com/tinyurl.com/gualter-github">tinyurl.com/gualter-github</a>
CITIZENSHIP	Brazil	
LANGUAGE	Portuguese[BR] (mother tongue), English [US] (Fluent), Spanish [MX] (intermediate)	
RESEARCH INTERESTS	Control systems, Robotics, Machine Design, Programming.	
EDUCATION	<b>Cleveland State University</b> , Cleveland, Ohio, USA PhD, Mechanical Engineering <b>August 2017 to present</b> <ul style="list-style-type: none"><li>• Area of Study: Energy regeneration in robotics, application to prosthetic legs.</li><li>• Advisors: Hanz Richter.</li></ul> <b>FEI University</b> , Sao Bernado do Campo, Sao Paulo Brazil B.S., Automation and Control Engineering <b>July 2010 - December 2016</b> <ul style="list-style-type: none"><li>• Advisors: Marko Ackermann, Fabrizio Leonardi</li></ul> <b>Western Michigan University</b> , Kalamazoo, Michigan USA Study Abroad, B.S., Electrical/Mechanical Engineering <b>Sep 2013 to Dec 2014</b> <ul style="list-style-type: none"><li>• Dean's List Summer 2013.</li><li>• Gave interview for WMU International News Magazine about my work with RaspberyPI. Advisor: Steven M. Durbin</li><li>• Gained fluency in English.</li></ul> <b>Escola SENAI "Roberto Simonsen"</b> , Sao Paulo, Brazil Machinist & Mechanic Apprentice <b>January 2007 to December 2008</b> <ul style="list-style-type: none"><li>• Manufactured high precision "prototypes" using conventional and Computer Numeric Control (CNC) machine tools, such as: lathes, grinders, mills, drilling, press, and computer numerical controlled machines.</li></ul>	
PROFESSIONAL EXPERIENCE	<b>Google Summer of Code 2018</b> <i>Student Developer</i> <b>April 2018 to August 2018</b> <ul style="list-style-type: none"><li>• Developed an Interactive Tool for Single Input Single Output (SISO) Linear Control System Design for GNU Octave, also known as sisotool in Matlab</li></ul> <b>Vtech Consulting Ltda.</b> <i>Application Engineer</i> <b>April 2017 to July 2017</b> <ul style="list-style-type: none"><li>• Support and Training to GOM products, such as Metrology Sensors and Deformation Analyses Sensors.</li></ul>	

- Optical Measurement, Metrology Inspection and Reports.
- Deformation Measurement, Deformation Analysis and Reports.
- Sales and Commercial Negotiation.
- Presentations, Courses and Training.

### Stefanini: IT Outsourcing & Software Application Development

*RPA Specialist Intership*

**March 2016 to March 2017**

- Building automation solutions using Robotics Process Automation (RPA) techniques.

### Lincoln Electric

*Machinist Mechanic Apprentice*

**May 2006 to December 2007**

- Design, Sketching, Drawing, Drafting in Autocad 3D.
- Building parts on lathe and milling machine.
- Timing belts and Gearbox maintenance.

#### RESEARCH EXPERIENCE

FEI University, Sao Paulo

*Robotist*

**February 2011 to July 2013**

- Undergraduate Researcher at the Artificial Intelligence Laboratory.
- Lead Programmer of the robot soccer team.
- Developed the strategy to pass system.
- Assistance for mechanical and electronic maintenance of robots.
- Received a grant by the Institutional Scientific Initiation Scholarship Program (PIBIC).

*Researcher at Scientific Initiation Program*

**August 2015 to July 2016**

- Performed experiments to estimate parameters of a wheelchair.
- Modeling and simulation the maneuver called wheelie.
- Developed a controller capable of rising the wheelchair.
- Received a grant by the Institutional Scientific Initiation Scholarship Program (PIBIC).

#### JOURNAL PUBLICATIONS

- [1] Erivelton Gualter Santos and Hanz Richter. “Design and Analysis of Novel Actuation Mechanism with Controllable Stiffness”. In: *Actuators*. Vol. 4. 1. Multidisciplinary Digital Publishing Institute. 2019, pp. 1–12.

#### PEER REVIEWED CONFERENCE PROCEEDINGS

- [1] Erivelton Gualter dos Santos and Hanz Richter. “Modeling and Control of a Novel Variable-Stiffness Regenerative Actuator”. In: *ASME 2018 Dynamic Systems and Control Conference*. American Society of Mechanical Engineers. 2018, V002T24A003–V002T24A003.
- [2] Erivelton G dos Santos, Fabrizio Leonardi, and Marko Ackerman. “Optimal Control of the Wheelchair Wheelie”. In: *Proceedings of the International Conference on Modelling, Simulation and Identification, Campinas, Brazil 1* (2016), pp. 218–224. DOI: 10.2316/P.2016.840-051. URL: <https://eriveltongualter.github.io/pdfs/IASTED.pdf>.

TEAM  
DESCRIPTION  
PAPERS

- [1] Erivelton Gualter dos Santos and Hanz Richter. "Modeling and Control of a Novel Variable-Stiffness Regenerative Actuator". In: *ASME 2018 Dynamic Systems and Control Conference*. American Society of Mechanical Engineers. 2018, V002T24A003–V002T24A003.
- [2] Erivelton G dos Santos, Fabrizio Leonardi, and Marko Ackerman. "Optimal Control of the Wheelchair Wheelie". In: *Proceedings of the International Conference on Modelling, Simulation and Identification, Campinas, Brazil 1* (2016), pp. 218–224. DOI: 10.2316/P.2016.840-051. URL: <https://eriveltongualter.github.io/pdfs/IASTED.pdf>.

UNDERGRADUATE  
RESEARCH  
SYMPOSIUM  
(PORTUGUESE)

- [1] Erivelton Gualter dos Santos e Marko Ackermann. "Modelagem e Simulação do Wheelie em Cadeira de Rodas Híbridas". Em: *IV Simpósio de Iniciação Científica, Didática e de Ações Sociais de Extensão da FEI* (2016).
- [2] Erivelton Gualter dos Santos e Marko Ackermann. "Controle Ótimo para execução do wheelie em cadeira de rodas híbridas." Em: *Simpósio Internacional de Iniciação Científica e Tecnológica da USP (SICUSP 24)* (2016).
- [3] Erivelton Gualter dos Santos e Flavio Tonidandel. "Sistema de passe para o futebol de robôs." Em: *II Simpósio de Pesquisa do ABC (SPGABC)* (2012).
- [4] Erivelton Gualter dos Santos e Flavio Tonidandel. "Sistema de passe para o futebol de robôs." Em: *II Simpósio de Iniciação Científica, Didática e de Ações Sociais de Extensão da FEI* (2012).
- [5] Erivelton Gualter dos Santos e Flavio Tonidandel. "Sistema de passe para o futebol de robôs." Em: *14º Simpósio de Iniciação Científica e Tecnológica (SICT)* (2012).

TUTORING  
EXPERIENCE

**FEI University**

*Teacher Assistance*

**February 2011 to December 2011**

- 4 classes, 40 students.
- FS1110: Physics I.
- MA2121: Differential and Integral Calculus II.

AWARDS

FEI University, Sao Paulo

- Prouni Scholarship - 2010 - 2016

Western Michigan University, Kalamazoo, Michigan USA

- Dean's List – 2013
- Science without Borders Scholarship- 2013 - 2014

Escola SENAI "Roberto Simonsen", Sao Paulo

- 2nd placed - Olympiad of knowledge– 2009
- Certificate of High Scholarship - 2008

TEAM AWARDS

FEI University, Sao Paulo

- 1st Place in SmallSize league - Brazilian Robotic Competition 2013
- 1st Place in SmallSize league - Latin American IEEE Robotics Competition 2012
- 1st Place in SmallSize league - Brazilian Robotic Competition 2011

## TALKS

**Cleveland State University Human Motion and Control Seminar**, Cleveland, Ohio, USA

*EMG - Driven Wheelchair Project*

**November 01, 2017**

## SOFTWARE PROFICIENCIES

- Autodesk Inventor; Autodesk Autocad 2D/3D ; NX 8.5.
- C/C++, Python, Matlab, Javascript, VHDL, Assembly, Lather logic.
- HTML, CSS, Javascript, Wordpress.
- Linux and Windows operating systems.
- $\LaTeX$ , LibreOffice, Microsoft Office.

## CONTINUING PROFESSIONAL EDUCATION

MOOC platform

- Neural Networks and Deep Learning - deeplearning.ai (2017).
- Robotics: Aerial Robotics - University of Pennsylvania (2016).
- Robotics: Computational Motion Planning - University of Pennsylvania (2016).
- Robotics: Mobility - University of Pennsylvania (2016).
- Programming for Everybody (Getting Started with Python) - University of Michigan (2016).
- Introduction to the Internet of Things and Embedded Systems -University of California, Irvine (2016).
- The Arduino Platform and C Programming - University of California, Irvine (2016).
- Dynamics and Control - UPV Universitat Politècnica de València (2015).

## REFERENCES

Academic Research

- Dr. Marko Ackermann *Professor*, FEI University, Mechanical Engineering Department, [mackermann@fei.edu.br](mailto:mackermann@fei.edu.br)
- Dr. Steven M. Durbin *Professor, Department Chair* , Department of Electrical and Computer Engineering, Western Michigan University, 1903 W Michigan Ave, Kalamazoo MI 49008-5329 USA, +1(269)276-3150, [steven.durbin@wmich.edu](mailto:steven.durbin@wmich.edu)