

Augusto Conrado Sardá

Personal information

26 years old,
Birth: May 11, 1994
Nationality: Argentina

Contact

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English proficiency

B1
Planning to take TOEFL exam
or equivalent

Education

2019 - 2021

Master's Degree in Engineering

Balseiro Institute | <https://www.ib.edu.ar/>

Fully funded through a scholarship granted by the National Atomic Energy Commission.

Grades 9.43/10

2012 - 2019

Electromechanical Engineering

Faculty of Engineering - National University of La Pampa |

<https://www.ing.unlpam.edu.ar/>

Grades 7.58/10

Teaching experience

2014-2018

Teaching assistant

Faculty of Engineering - National University of La Pampa

- Algebra
- Analytic geometry
- Probability and statistics
- Mathematical analysis II

Research experience

2019-2021

Master's Degree

Balseiro Institute

My thesis focuses on control strategies on a micro wind generator

- Modeling of permanent magnet synchronous generator (PMSG)
- Study of control techniques on PMSG for wind energy conversion systems (WECS).
- Development of an experimental facility for testing and evaluation of the different control strategies. The facility consists of a motor - PMSG coupling and the WECS controller. The motor represents the wind turbine dynamics

Master's advisors: Dr. Andrés Etchepareborda and Eng. Norberto Abaurre.

Here is a video of a talk I gave in December 2020 explaining the work in progress and the remaining work (in Spanish).

2017-2018

Scholarship of research initialization

Faculty of Engineering - National University of La

Pampa

During 2017 and 2018, I got this scholarship granted by the University. I worked at the Mechatronics Laboratory at the Faculty of Engineering: excitation of strain gauges - Wheatstone bridge, noise in strain gauges, noise in acquisition data systems, and implementation of digital filters on Matlab.

Scholarship advisor: Dr. Rogelio L. Hecker.

Publications

A. Masante, P. Rermirez, F. Masch, A. Sardá, R. Hecker and G. Flores (2018). Dynamic study of a nanometric positioning system with flexure structure using experimental impulsive response and simulation. Mecánica computacional Vol XXXVI p.1627-1636

R. Hecker, M. Flores, P. Remirez, F. Masch, L. Lamas, M. Paesani, A. Sardá, M. Belleze and A. Masante (2017). Estudio y compensación de fenómenos críticos para posicionamiento de precisión. Libro de resúmenes - ISBN 978-950-863-314-9

Programming & Software skills

C

Embedded systems and microcontrollers programming

Python

Numpy, Scipy, Matplotlib, Keras

Matlab & Simulink

Control systems

Latex

HTML, CSS

Web development

AutoCAD

SolidWorks, Solid Edge

Of interest

2020

4 Happy Devs

4HD is a team of application developers, settle up by three very close friends and myself. Our objective is to transform our free time into valuable projects while learning new technologies and sharing time together.

We have developed Pasto a Pasto, a website meant to measure the forage offer level for stockbreeding establishments to optimize their productivity. Responsive design; backend with Flask; deployment on Heroku. <http://pastoapasto.com.ar/>

2017-2019

Arcaadia brewery

Arccadia was built by four very close friends and myself. We started brewing 20lts. per month and reached a maximum of 400lts. per month. Throughout those two years, we learned about administration, production, organization and business but best of all, we bonded and developed a high teamwork spirit.

2018

Friends of Fulbright scholarship

I was part of an Argentinian group of 20 undergraduate students in a cultural exchange for seven weeks at Virginia Tech (USA). The main activities were taking English classes, assisting cultural events and meetings organized by our host, and assisting classes of my interest.

Courses of interest

2020	Deep learning and artificial neural networks Course oriented to deep learning applied to computer vision. Use of the Keras API through TensorFlow	128 hs course - Master
2020	Emdebbed systems with microcontrollers GPIO - Interruptions - Timers - PWM - DMA - ADC - DAC - Series communication protocols. Practices developed in STM32 Nucleo Development Board.	64 hs course - Master
2019	Laboratory of digital signal processing Three different projects about (a) a phonocardiogram signal, (b) image processing, and (c) a synthetic aperture radar (SAR) image. Implementation in Matlab and Python.	64 hs course - Master
2019	Introduction to robotics Forward and inverse kinematics. Practices developed with Scorbot Robotic Arm ER VII and computer vision implemented with OpenCV library in Python. Introduction to quaternions.	128 hs course - Master
2019	Control theory III Digital control of dynamics systems. Transfer function and state variable representation. Optimal estimation and Kalman filter.	128 hs course - Bachelor
2019	Servomechanisms Digital control techniques to apply on servomechanisms: system identification, micro-controller programming for control purposes. Final project: control of an aeropendulum (video of its performance here)	160 hs course - Bachelor
2018	Control theory II Continuous control of dynamics systems in state space representation	60 hs course - Bachelor
2018	Power plants and transmission and distribution systems Mechanical calculus of conductors and structures. Structure foundations. Electrical calculus of power lines. Transformer distribution station and substations (medium and high voltage).	120 hs course - Bachelor
2017	Classical control theory Continuous control of dynamics systems in transfer function representation	80 hs course - Bachelor
2016	Electrical installations Security measures against electric contact. Illumination. Devices and equipment for maneuver, command and protection. Electric boards. Power factor correction. Grounding systems. Atmospheric discharge protection systems.	110 hs course - Bachelor