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LinkedIn



CLAUDIO ALVAREZ BARROS

PROFILE

An energetic, motivated and highly dynamic professional that holds a BSc, MSc degree, and 9 years of experience in software and electronic design. With a broad range of experience, including the development of key software components that helped to put into operation the international ALMA radio observatory, and the complete cycle of design, development, to the end-product of a quality testing robot in Rhiscom S.A. Skills such as fast-paced learning and working, self-starting, mentoring, creative and critical thinking, and problem-solving makes me passionate about novel product design and research. In 2018 I join the ASCENT research task program, one of six centers in JUMP, a Semiconductor Research Corporation (SRC) program sponsored by DARPA as part of my PhD research on single stage 48V to 1V package integrated voltage regulator.

Read more on: http://www.lantern.cl/cv_calvarez.html and www.linkedin.com/in/calvarez39

EDUCATION

PhD Student in Electrical Engineering	Georgia Institute of Technology	August 2017 – August 2022	GPA 3.78
MSc in Electrical and Computer Engineering	Georgia Institute of Technology	August 2017 – May 2019	GPA 3.78
EEng Electrical Engineer	Universidad de Santiago de Chile	January 2003 - January 2010	
BSc Bachelor of Science in Engineering	Universidad de Santiago de Chile	January 2003 - October 2009	

AREAS OF INTEREST

Power Electronics, Power and Signal Integrity, Microwaves, Computational Electromagnetics, Circuit Simulators, Microcontroller and FPGA based applications.

SKILL

- Fast-paced learning and working
- Self-starting
- Mentoring
- Creative and critical thinking
- Problem solving
- Analog and digital circuit analysis and simulation (LTSpice, NGSpice)
- Schematic and layout EDA (Altium Designer, Kicad, Eagle)
- 2D and 3D modeling CAD (AutoCAD, Autodesk Inventor and Fusion 360)
- PC and MCU software development (C, C++, Javascript, Matlab, Python)
- Electromagnetic Simulations (Ansys HFSS and Maxwell, and Keysight ADS)

WORK EXPERIENCE

Electronic Engineer Rhiscom S.A. *June 2014 – July 2017, Santiago, Chile*

- I Lead the design of a robot for the Automated Testing As A Service (ATaaS) product line.
- Software design using C for PIC32 microcontroller with FreeRTOS, and C++ using Qt library for the Windows to develop the robot's HMI. Electronic design, schematic and layout, using Eagle. Circuit simulation using LTSpice. Mechanical design using Autodesk Inventor.
- Training my co-workers on the fabrication procedures, maintenance, and troubleshooting of the ATaaS product.

Electronic Engineer eFENRIS EIRL *January 2012 – January 2015, Santiago, Chile*

- It was a Single-Member LLC. It was my entrepreneurship effort with aim to provide consulting and design to optimize productive process. The focus was the development of new technologies for the local industry using Machine to Machine (M2M) systems.

Electronic Engineer II ALMA Observatory *October 2010 – December 2012, Santiago, Chile*

- Diagnose and Troubleshooting the antenna receiver using Python and the receiver instrumentation and power meters.
- Development of an automated software in Python for receiver parameters optimization and receiver maintenance PAS (*Procedures for Acceptance on Site*).
- Design in Python and C++ of an algorithm to lock the local oscillator of each antenna to the master reference signal.
- Provide training and teaching to my co-workers on the systems I built.

Electronic Engineer SING Ltda *August 2008 – August 2009, Santiago, Chile*

- Participate in the electronic design and product development of new solutions for the local industry.

HOBBIES

Play board games, 3D Printing, Paint game miniatures



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INTERNSHIPS

Intel Corporation

Arizona, Chandler, USA

May 4 2020 to July 31 2020

AWARDS

ECTC 2019 Student Travel Award – by the IEEE Electronics Packaging Society (EPS) in May 2019

CONICYT Scholarship for Ph.D. programs - by Chilean government in 2017

Fulbright Ph.D. Fellowship – by the US and Chile Fulbright commission in 2016

Best Student of Class of 2009 – by Universidad de Santiago de Chile in September 2010

PUBLICATIONS

ALMA Observatory

C. Alvarez, J.P. Garcia, "A New Phase-Lock Algorithm for the ALMA Receivers," in *Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VI*, edited by Wayne S. Holland, Jonas Zmuidzinas, Proceedings of SPIE Vol. 8452, 845232 © 2012 SPIE

Georgia Institute of Technology

C. Alvarez, M. Bellaredj and M. Swaminathan, "Open and Closed Loop Inductors for High-Efficiency System-on-Package Integrated Voltage Regulators," *2019 IEEE 69th Electronic Components and Technology Conference (ECTC)*, Las Vegas, NV, USA, 2019, pp. 1672-1679.

C. Alvarez, Srinidhi Suresh, M. Swaminathan, "Novel Inductor Design with Power Stage and PDN efficiency constraints for High Voltage 48V to 1V Integrated Voltage Regulators," *SRC TECHCON 2019*, September 2019. Close access conference to SRC members and student.

OTHER COURSES

An introduction to Interactive Programming in Python

Rice University – Online - Coursera

June 2014

Introduction to Power Electronics

Colorado Boulder University - Online - Coursera

January 2014

Solar Cells, Fuel Cells and Batteries

Stanford University - Online - OpenEdX

January 2014

Quantum Mechanics for Scientists and Engineers

Stanford University - Online - OpenEdX

December 2013