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Sergio Silva

Education

August 2015 -
May 2018

B.S. Electrical Engineering, *University of Illinois at Urbana-Champaign* **GPA: 3.83**.
Relevant Coursework: Analog/Digital IC Design, Power Electronics, Control Systems, Wireless Communication Systems, Digital Signal Processing

Work Experience and Leadership

June 2017 -
August 2017

Applications Engineering Intern, *Analog Devices*, Greensboro, NC.
- Implemented a fully automated RF power amplifier characterization setup that can complete parameter measurements, such as gain flatness and compression characteristics
- Configured signal generator, spectrum analyzer, and vector network analyer to measure RF power amplifier metrics, PAE, P1dB, P3dB, Psat, IP3, and component insertion loss
- Utilized IronPython and NI MAX to connect, initialize, and control instruments through hardware wrapper classes and SCPI commands

August 2017 -
Current

IEEE TAG Circuits Chair, *UIUC*, Champaign-Urbana.
- Organize and lead meetings that show students how to build analog and mixed signal circuits, from power to audio to RF
- Advance student knowledge and interests in circuits by coordinating PCB/soldering workshops, introducing and guiding hands-on projects to be demonstrated at open house

August 2017 -
Current

ECE 464: Power Electronics Grader, *UIUC*, Champaign-Urbana.
- Grade weekly homeworks for senior/graduate level course with a class size of 90 students
- Provide office hours and feedback to help students understand course material

May 2016 -
December 2016

Student Technician, *UIUC*, Champaign-Urbana.
- Assisted students with any questions regarding parts and general electronics
- Repaired cables through the use of soldering and shrink wrap

Projects

Spring 2017

Low-dropout Voltage Regulator.
- Designed an LDO in TSMC 180nm to meet specific design parameters: DC load regulation, DC line regulation, CMRR, PSRR, output voltage error, stability
- Simulated, extracted, and verified design specifications using Cadence Virtuoso

Fall 2016

AC-DC Power Converter 100W 12V.
- Designed an AC-DC power converter consisting of a full-bridge rectifier and a buck converter regulator and implemented with analog feedback control, simulated using LTSpice
- Built the power converter on a perf-board and tested at output current 4A with a 100kHz switching frequency reaching efficiency 80% and output voltage ripple ±1%

Fall 2016

Remake of Frogger Using SystemVerilog.
- Programmed on DE2-115 FPGA board, with Quartus and Nios II system-on-chip integration
- VGA display, USB keyboard, state machine for game flow and logic, sprite tables

Skills

Programming   Python, MATLAB, SystemVerilog, C, HTML, CSS, Javascript
Software   Cadence Virtuoso, LTSpice, EagleCAD, KiCad, NI MAX