Aquilles Pedro Grisa Santana

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Profile

Working with electronics since 2016, where I developed pation about understanding and developing circuits for various applications.

Experience

Chipus Microelectronics   *Florianópolis, SC, BR*

Analog/RF IC Design Engineer   *Jul-2025 - Present*

- Designed and analyzed RF circuits and blocks for Phase-Locked Loops (PLLs) and other high-frequency systems, with emphasis on spectral performance and low-power operation.
- Led the top-level design of high-efficiency integrated switching DC-DC converters for System-in-Package (SiP) applications, including review of ESD protection strategies, high-voltage circuit blocks, and on-chip non-invasive current sensing solutions.
- Developed behavioral and system-level circuit models using Hardware Description Languages (Verilog-A/MS), as well as mathematical top-level models implemented in Python and Octave.
- Performed schematic design and analysis using Cadence Virtuoso and Synopsys Custom Compiler, and developed comprehensive test setups for DC-DC converters using SIMPLIS/SIMETRIX.
- Created a Python-based automation tool to populate and maintain Verification Plan documentation, improving report standardization, traceability, readability, and reducing the risk of outdated information.

Intern – Analog Circuit Design   *Mar-2024 - Jul-2025*

- Designed and participated in a training program focused on Programmable Gain Amplifiers (PGAs), reinforcing core analog circuit concepts and gaining hands-on experience with industry-standard tools such as Cadence Virtuoso and Synopsys Custom Compiler.
- Developed an RF system-level simulation and a low-power backscatter device prototype, aimed at a proof-of-concept demonstration kit for the contractor.
- Conducted research and design of high-frequency, low-power circuits as part of my undergraduate thesis, with emphasis on a Voltage-Controlled Oscillator (VCO) implemented in 12 nm FinFET technology (repository link available in the Publications section).
- Produced technical documentation, including Verification Plans to ensure circuit and block compliance with specifications, as well as detailed technical reports for internal teams and project management.

Skills

Professional

- Cadence Virtuoso and related tools
- Synopsys Custom Compiler and related tools
- SIMPLIS/SIMETRIX
- Technical equipment:
    - Vector Network Analyzer (VNA)
    - Software Defined Radio (SDR)
    - Universal Software Radio Peripheral (USRP)
    - Power source
    - Oscilloscope
    - Multimeter
    - Wave generator
- Hardware description languages:
    - Verilog-A/MS - Intermediate
    - VHDL - Basic
- Programming languages:
    - C - Intermediate
    - Python - Intermediate
    - C++ - Basic
- Linux (Personal and professional usage)
- Altium Designer
- AutoDesk Eagle
- GNU Radio
- MATLAB/Simulink

Technical

- PTH / SMD Soldering
- LT Spice
- Proteus
- SolidWorks
- 3D modeling
- 3D printing
- Octave

Soft Skills	• Team work	• Organization
	• Communications	• Planning
	• Critical thinking	• Analytical thinking
	• Problem solving	• Critical thinking
	• Resilience	• Documentation skills
	• Commitment	• Knowledge sharing

Languages	• Portuguese - Native
	• English - Advanced
	• German - Interest
	• French - Interest

Education

Universidade Federal de Santa Catarina - UFSC   *Florianópolis, SC, BR*

Bachelor Degree in Electronic Engineering   *2020 - 2025*

   Link to website

   Emphasis on rafiofrequency, telecommunications, microelectronics and signal processing

Instituto Federal de Santa Catarina - IFSC   *Florianópolis, SC, BR*

Technical Degree in Electronics   *2016 - 2019*

- Link to website
  Integrated with High School

University Projects

Radiofrequency laboratory - LRF-UFSC   *Florianópolis, SC*

Universidade Federal de Santa Catarina - UFSC   *2024 - 2025*

- • Research on oscillators and phase locked loops
- Radiofrequency equipment testbench usage
- Undergraduate thesis

Scientific initiation   *Florianópolis, SC*

Universidade Federal de Santa Catarina - UFSC   *2022 - 2024*

- Development of electronic circuits for monitoring building energy efficiency and thermal comfort.
- Design and construction of an aging chamber
- Research on transducer construction methods

Ampera Racing - UFSC SAE   *Florianópolis, SC*

Analyst | Head | Specialist   *2021 - 2024*

- Development of electrical circuits for monitoring, safety, and control, focusing on electric mobility.
- Responsible for managing a team of seven members, overseeing task management, activities, and resource allocation to ensure the successful execution of projects, organizing training sessions and team performance analyses.
- Development of a electronic steering system for the second autonomous vehicle of FSAE Brazil and a Battery Management System (BMS) project for the team.
- 4th place in the 18th Formula SAE Brazil – Electric
- 2nd overall place and 1st in Engineering Design at the 19th Formula SAE Brazil – Electric

Publications

UNDERGRADUATE THESIS

"Design of a 16 GHz voltage-controlled oscillator with control and output stages using 12 nm finfet technology"
Link to institutional repository