Natanael Bertamoni

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Summary

Electrical Engineer with expertise in integrated circuit design. Proficient in Cadence Virtuoso, and microelectronics development processes. Developed energy-efficient designing systems and contributed to innovative semiconductor technologies. Recently finished the specialization (CI-inovador) on mixed-signals at UFRGS where developed AD SAR conversor. Now it is in process of finishing the Master degree at UFSC with enphasis in low power circuits.

Technical Skills

Tools: Cadence Virtuoso, Latex, Linux, RTOS Nuttx

Programming Languages: Python, C

Management: Kanban, Git, active problem solving.

Projects

Temperature sensor - at Master course Sep 2024 - Jan 2025

Temperature sensor based on relaxation oscillators.

- Design of temperature sensor based on relaxation oscillators target to RFID tags. To reduce costs, only one calibration point is allowed. Including AD conversion, the total current budget is less than 1 uA.

Current generator - at Master course Jun 2024

Low Power and subthreshold circuit target to a temperature sensor

- Design of a current generator to work as current reference and PTAT current to temperature sensor. The total amount of power is less than 400nW.
- Mathematical and physical modeling of the current generator shown in LASCAS article publication.• Acces the article here [click].
- GDSII sent to Global Foundries 130nm.

Chlorophyll meter - at Falker company Jan 2021 – Jul 2022

Embedded electronic

- Developed an embedded electronic system for a chlorophyll meter using C language and integrated with I2C, GPS, and Bluetooth technologies
- Developed a Nuttx application to run the device.
- Implemented up to date hardware electronic to target new gen. communication.

Experience

Integrated Electronic Circuit Aug 2022 – Sep 2024

Master at UFSC *Florianópolis, Brazil*

- Applications of Advanced Compact MOSFET model (ACM).
- Experienced with laboratory equipament.
- Several integrated circuits topologys were investigated - e.g. folded cascode amplifier, voltage references, currente references, oscillators.

Embedded Electronic Engineer Nov 2020 – Aug 2022

Falker *Porto Alegre, Brazil*

- Developed and deployed embedded electronics hardware and software.
- Provided production support on technical issues.
- Collaborated with cross-functional teams to deliver hardware and embedded software solutions.

Embedded Electronic intern Dec 2020 – May 2021

Falker *Porto Alegre, Brazil*

- Fixed minor software bugs in production.
- Performed PCB layout and new schematic version to fix minor bugs.

Education

UFRGS — Porto Alegre, Brazil
Lato sensu postgraduate degree in microelectronics (CI-Inovador). — *May 2025*

UFSC — Florianópolis, Brazil
M.S. in Electronic Engineering — *Expected June 2025*

UFRGS — Porto Alegre, Brazil
B.S. in Electrical Engineering — *Dec 2021*

Certifications

- Cadence Virtuoso (PVS) Physical Verification System [click] on May, 2024.
- Spectre Simulator Fundamentals S3: Small-Signal Analyses [click] on May, 2024.
- Spectre Simulator Fundamentals S2: Large-Signal Analyses [click] on Aug, 2023.
- Spectre Simulator Fundamentals S1: Spectre Basics [click] on Aug, 2023.
- Project Planning: Putting It All Together [click] on Jan, 2023.
- Project Initiation: Starting a Successful Project [click] on Aug, 2022.
- Foundations of Project Management [click] on Mar, 2022.
- C++ For C Programmers, Part A [click] on Mar, 2019.