Alberto Lopez

Analog IC Designer

Barcelona, Spain
——-@gmail.com
MisCircuitos.com



Work Experience - pure IC Design Experience $\approx 3yrs$

02/2025–Today **Analog IC Designer Postdoc**, *Universitat Politècnica de Catalunya*, Spain
- Developing a high-speed serial communication IP.
- Designing a voltage-mode analog driver using MIPI-C protocol (trio-signaling) communication interface.
- Managing the full analog flow including schematic design, simulation, layout, extraction, and creating a logical sequencer for built-in testability.
- Performing characterization and parametrization of transmission lines to export S-parameters to the Cadence environment.

05/2023–03/2025 **Analog IC Designer**, *Gedec (Microtest Group)*, Italy
- Developed an 8-bit Wilkinson ADC with interleaved operation for image sensors.
- Worked on buck converters for automotive applications, performing IP adjustments, configurations, debugging, and stability verification.
- Designed a Low-Dropout (LDO) regulator using native NMOS for low-noise audio amplifier applications.
- Provided internal technical mentorship to junior layout engineers on IC fundamentals, Cadence schematic entry, and design reviews.
- Actively participated in project proposal discussions and evaluation meetings.

04/2019–12/2023 **PhD Researcher**, *Universidad de Navarra*, Spain
- Developed an integrated low-power solar energy harvester for wireless sensor nodes in TSMC 180nm.
- Covered all phases of the analog IC design flow: architecture definition, schematic entry, simulation, layout, physical verification, silicon testing, redesign, and technical documentation.
- Successfully completed 3 full tape-outs.

05/2018–12/2018 **Mixed-Signal IC Designer Intern**, *Research Institute IMMS*, Germany
- Developed a control circuit for an energy harvester featuring maximum power point tracking (MPPT) and mixed-signal control logic.
- Conducted top-level simulations of the IC, including switched-capacitor analog feedback, relaxation/ring oscillators, a charge pump, and Verilog logic.

Education

09/2016–02/2019 **Master in Advanced Electronic Engineering**, *FH Joanneum*, Graz, Austria
- Specialization in Micro- & Nano-Electronics, Chip Design.
- **Master Thesis:** "Design of a Mixed-Signal IC solar Low Power Energy Harvester" (Grade: 1).
- Mean grade: 1.3 | Recipient of the Merit-based scholarship 2016/17.

09/2012–07/2015 **Bachelor of Science in Automation Technology**, *University of Applied Sciences Mannheim*, Germany
- Curriculum taught in German and English (Automatisierungstechnik). Mean grade 1.8

09/2006–09/2012 **Industrial Engineering (Ingeniería Industrial Superior)**, *Politecnical University of Cartagena*, Spain
- **Final Project:** "Design, construction and control of a hexacopter in a testing platform" (Grade: 10/10).

Other Engineering & Technical Projects

2010–Today **Main Technical Editor & Founder**, *MisCircuitos.com*
- Author of an IC technical website with over 100 articles covering analog circuit design, semiconductors, electronics tutorials, and Cadence short-tutorials/tips.

05/2017–03/2018 **Application Engineer**, *Research Institute Know Center*, Austria
- Developed an electronic data interface linking biomedical sensors to a big data system via Bluetooth Low Energy (BLE) using Python and embedded systems.
- Utilized reverse engineering to decode Bluetooth protocols and analyze hardware implementation.

08/2015–09/2016 **Mechatronic Engineer / PLC-Programmer**, *SSI Schäfer*, Germany
- Provided high-level technical support and troubleshooting for optimization of PLCs at a fully automated Amazon logistics center.

09/2014–07/2015 **Automatic Control Software Developer**, *John Deere*, Mannheim, Germany
- Developed, designed, and debugged energy balance control testing platform for electric tractor trailer.

04/2014–06/2014 **Microcontroller Program Developer**, *University of Mannheim*, Germany
- Collaborated with Professor Junker to assist lab lectures and develop the C-codes programs for Texas Instruments MSP430.

Languages

Spanish	Native
English	Fluent (C1)
German	Fluent (B2) – Österreich Sprach Diplom (C1)
Italian	Intermediate (B1/B2)
Catalan	Strong oral/reading comprehension, basic speaking