AMÉRICO DIAS, MSc

ANALOG IC DESIGNER | +351 938 675 407 | americo.dias@gmail.com | https://s.dias.pt/linkedin | Porto area, Portugal

PROFESSIONAL SUMMARY

Professional electronics experience since 2001, including professional analog/mixed-signal IC design since 2009, spanning circuit development, layout, verification, testing, and optimization. Proven ability to lead teams, improve design flows, and translate deep technical work into business impact. Expertise in problem-solving, advanced circuit analysis, EDA tooling, and low-power semiconductor product development.

PROFESSIONAL EXPERIENCE

ANALOG IC DESIGN ENGINEER / **IC DESIGN MANAGER** | Porto, Portugal | 2021 - Present *Nanopower Semiconductor* A company specializing in ultra-low-power microelectronics for IoT.

- Built the initial 7-member IC design team from scratch, recruiting engineers, establishing engineering practices, and supporting delivery of multiple test chips and one full mask tapeout.
- Led a strategic EDA tool evaluation for analog/mixed-signal IC design, benchmarking Cadence, Synopsys and Siemens flows across schematic capture, layout, simulation, DRC/LVS, and migration risk; strengthened vendor negotiation and enabled significant EDA contract savings.
- Developed and documented an AI-assisted standard-cell generation workflow using open-source EDA tooling and autonomous coding agents in a DRC/LVS-driven engineering loop.
- Collaborate with the CEO, CTO, and stakeholders to align technical work, product specifications, roadmap decisions, and business constraints.
- Design analog blocks and support layout, verification, debugging, and design-flow improvements for ultra-low-power semiconductor products.

SENIOR ANALOG ASIC DESIGNER | Roskilde, Denmark | 2018 - 2021 *Knowles Corporation* Leading provider of advanced audio and precision device solutions for diverse industries.

- Optimized a high-precision DAC by porting it from 180nm to 130nm, addressing challenges in accuracy and power consumption, and delivering improved performance and efficiency.
- Led the layout design of the sigma-delta ADC, coordinating efforts across a multidisciplinary team and ensuring timely completion of critical sub-blocks.
- Designed a high-precision differential comparator, overcoming calibration challenges to enable accurate auto-calibration and ensure operational reliability.

SENIOR ANALOG IC DESIGN ENGINEER | Copenhagen, Denmark | 2017 - 2018 *Silicon Labs* Provider of SoC solutions for smart home and IoT technologies, following Silicon Labs' acquisition of the Z-Wave business.

- Developed a high-PSRR 120mA LDO in 40nm TSMC process, addressing noise challenges and improving power supply performance for sub-GHz PA applications.
- Diagnosed and resolved critical oscillator stability issues by combining lab measurements with PEX simulations, ensuring reliable performance.
- Created a Delta-Sigma modulator model in SystemC-AMS, achieving simulation speeds 100x faster than traditional macro-models without sacrificing precision.

SENIOR ANALOG DESIGN ENGINEER | Stavanger, Norway | 2016 - 2017 *Emerson Automation Solutions (Norway)* A global technology company providing innovative solutions for industrial and commercial automation.

- Modelled electromagnetic propagation for feasibility studies, enabling the development of innovative downhole products for industrial applications.
- Designed analog circuits for fault detection along transmission lines, improving reliability and diagnostic accuracy in challenging environments.

ANALOG IC DESIGN ENGINEER | Porto, Portugal | 2013 - 2016 *SiliconGate* A specialized provider of power management IP cores for ASIC/SoC and integration and verification services.

- Designed analog blocks for power management IPs, including topology selection, simulation, and physical layout, ensuring performance optimization and compliance with design constraints.
- Conducted stability analysis and worst-case scenarios to enhance reliability and operational efficiency in power management circuits.

PHYSICAL IC DESIGN ENGINEER | Porto, Portugal | 2011 - 2012 *Synopsys* A global leader in silicon design and verification tools.

- Delivered full-cycle physical design for high-performance PHYs, optimizing timing, power, and area from RTL to GDSII.

RESEARCHER | Porto, Portugal | 2009 - 2010 *INESC Porto* A leading R&D institute focused on innovation in science and technology.
- Developed an AHRS prototype using MEMS and mixed-signal microelectronics, enhancing aerospace application capabilities.

COUNTRY SALES REPRESENTATIVE | Porto, Portugal | 2007 - 2008 *Venco Electrónica and RC Microelectronica* Distributor of electronic components and solutions.
- Established the company's market presence in Portugal from scratch, building a solid foundation for future growth.
- Exceeded annual sales objectives with a significant margin, securing key accounts and fostering strong customer relationships.

HARDWARE TECHNICIAN & DEVELOPER | Porto, Portugal | 2001 - 2007 *Corsisa Electrónica* A company specializing in industrial, consumer, and optoelectronic solutions.
- Designed and implemented hardware/firmware solutions while ensuring production quality control for industrial applications.

Education

Executive MBA (Double Degree) | Porto, Portugal / Warsaw, Poland | 2026 *Porto Business School – University of Porto; Kozminski University*

Ph.D. Electrical and Computer Engineering (suspended) | Porto, Portugal | 2011 *Faculdade de Engenharia do Porto – University of Porto*
- First-year GPA: 16/20; research focused on bi-directional transceiver for biomedical implants.

M.Sc. Electrical and Computer Engineering | Porto, Portugal | 2010 *Faculdade de Engenharia do Porto – University of Porto*
- Master's Thesis: Developed UWB transmitter for biomedical implants (Grade: 19/20).
- Microelectronics Students' Group (μSG): Co-founded to foster IC design innovation, winning the 2009 Cadence EMEA Design Contest.

Languages

Portuguese Native, **English** C1, **Spanish** C2

Technical Skills

Analog IC Design, Mixed-Signal Circuit Design, IC Layout, Power Management Design, Low-Power Circuit Design, DRC/LVS, EDA Tooling and Automation, Laboratory Testing and Debugging, Embedded Systems, Signal Processing, Programming (Python, C, C++), CAD Tools (Cadence Virtuoso, Spectre, ADE, Calibre, KLayout).

Management Skills

Engineering Leadership, IC Design Team Build-Up, Project Planning & Follow-Up, Staffing & Task Allocation, Cross-Functional Coordination with CEO/CTO/Business Development, Technical Roadmapping, EDA Vendor Evaluation & Negotiation, R&D Execution, Cost/Trade-Off Analysis, Business/Technology Interface.

Other Skills

Problem-Solving, Adaptability, Effective Communication, Collaboration, Creativity, Attention to Detail, Decision-Making, Conflict Resolution, Leadership, Emotional Intelligence, Time Management.

Selected Writing & Publications

- *A Novel Low-Power Subthreshold Voltage Reference Circuit with Enhanced PSRR*: DCIS 2024 paper on ultra-low-power analog IC design for IoT and portable electronics.
- *Generative Artificial Intelligence as a Research Partner in Orthopaedics*: 2026 review proposing a RAG-grounded workflow for evidence selection, synthesis, and scientific writing.
- Generating a Standard-Cell Library with an AI Agent: AI-assisted EDA workflow for CMOS standard-cell layout generation, verification, and benchmarking.
- Earlier publications include an impulse-radio UWB transmitter, remote electronics workbenches, a CMOS frequency synthesizer, and IC design education activities at CDNLive! EMEA and PAEE.