Francisco (Paco) Leon

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RF FW Engineer with work experience in embedded RF driver implementation, hands-on RF system/block (PLL, LNA, DPA, TDC) modeling and debugging, DSP algorithms, and test scripting. Extensive technical expertise in RF embedded systems, object-oriented programming, RF test automation, and SW/HW debug tools. Interested in RF firmware and DSP.

Work Experience

Apple Inc. **San Diego, CA**
Cellular RF Firmware Engineer **May 2021 – Present**
- Implement driver in C++for calibration and regular operation for 5G FR2 frontend IC.
- Debug integration issues in both simulated and real hardware platforms.
- Debug Gitlab CI integration failures, solving issues across multiple repositores.

Innophase Inc. **San Diego, CA**
Senior RF Systems Engineer **Apr. 2017 – Apr. 2021**
- Designed and implemented RF drivers and calibration routines in C for embedded IoT and cellular SoCs.
- Debugged and solved FW integration with HW, on digital simulation and target HW using CPU tracing tools.
- Maintained regression-testing suite on Gitlab, implementing FW API, digital simulation, and Python scripts.
- Uncovered root cause for simulation/measurement mismatchs, using RF lab instruments and Python+Matlab models.
- Maintained Python DUT+equipment API, adding modularity, version control, scripting, and data analysis.

Midtronics Inc. **Chicago, IL**
Software Test Engineer **May 2016 – Mar. 2017**
- Created and executed test plans for embedded systems, revealing undiscovered issues in 20+ different products.
- Designed and maintained automated testing tools and scripts in C#, reducing testing time from days to hours.
- Managed issue tracking platform JIRA, improving project reporting and drastically reducing escaped defects.

Technical University of Madrid **Madrid, Spain**
Radar Research Assistant **Jul. 2013 – Jul. 2015**
- Designed in Matlab and tested prototype of signal and data processing chains for collision-avoidance radar system.
- Drafted and assembled mm-waves radar hardware, improving past performances and allowing new applications.
- Advised European Border Agency Frontex in deployable technologies for EU border surveillance projects.

Education

Illinois Institute of Technology **Chicago, IL**
MS, Electrical Engineering **Aug. 2016**
- GPA 4.0/4.0
- Relevant work: SW/HW design of SDR on Zedboard+AD9364, FFT algorithms VHDL implementation and synthesis.

Technical University of Madrid **Madrid, Spain**
MS, Telecommunications Engineering **Aug. 2016**
- GPA 8.73/10
- Relevant work: Matlab implementation of MIMO algorithms and wireless channel estimation.

Technical University of Madrid **Madrid, Spain**
BS, Telecommunications Engineering **Jun. 2014**
- GPA 7.91/10. Class top 5%.
- Relevant work: FSK transceiver on breadboard, GSM radio interface characterization.

Skills

●●●●● C, C++, Python, git, Matlab, SA, SG, PS, DMM, VNA, Loadpull, Spanish (native)

●●●●○ VHDL, gdb, LabView, SystemVue, Linux, Gitlab CI

●●●○○ SystemC, C#, German (B2)

Publications

- "Processing chain of a radar network for safety improvement in the usage of heavy machinery," European Radar Conference (EuRAD), Paris 2015.
- "On the Use of Low-Cost Radar Networks for Collision Warning Systems Aboard Dumpers," MDPI Sensors 2014.