Gustavo Castrejon

Los Angeles, CA | castrejongus@g.ucla.edu | (818) 307-1246 | U.S. Citizen
linkedin.com/in/gustavo-castrejon | gustavo-castrejon.github.io

SUMMARY

Electrical engineering student with interest in radio frequency and PCB design, testing, and designing RF modules for different applications. Seeking an internship in RF & Circuit design engineering to apply and expand my skills in a professional engineering environment.

EDUCATION

University of California, Los Angeles **(UCLA)** Class of 2026
*B.S in **Electrical Engineering**, specialization in Computer Science* ***GPA: 3.23***

- **Relevant Courses:** Signal Processing, Electrical Circuit Analysis, Digital Logic Design, Software Construction, Computer Architecture

SKILLS

Technical Skills: Circuit Design & Simulation: SPICE, LTspice,MATLAB; Hardware Design: SystemVerilog, VHDL, FPGA, PCB Layout: Altium Designer, KiCAD; Programming Languages: C, C++, Python, JavaScript Version Control: Git, GitHub;
Laboratory Skills: Proficiency operating within micro/nanofabrication cleanroom settings (classes 100/10), Materials Characterization (XRD/SEM/TEM), Oscilloscopes, Multimeters, Soldering & PCB Assembly, Signal & Spectrum Analysis
Language Skills: Fluent in English and Spanish

TECHNICAL EXPERIENCE

Electrical Engineer, *California NanoSystems Institute* | Los Angeles, CA 2023 - 2024

- Designed and developed semiconductor devices for power electronics, telecommunications, and microprocessors. Experience with semiconductor nanofabrication processes, including lithography techniques, DIE, CVD, etching, PVD, and more.
- Designed EMI (Electromagnetic Interference) sensors to detect electromagnetic disturbances in electronic systems, integrating radar technology to simulate and detect interference in sensitive electronic environments.
- Replaced and optimized Python scripts in collaboration with Thermo-Fisher engineers, resulting in improved machine performance and seamless integration with existing control systems.

Engineering Tutor, *UCLA* | Los Angeles, CA 2022 - 2024

- Tutored lower division Math, Circuits Analysis, and Computer Science to undergraduate engineering students.
- Designed lesson plans to address learning needs, attending students achieved whole grades higher than the median of the class

TECHNICAL PROJECTS

RF Signal Disruption and Interference Testing

- Developed an RF signal disruption system utilizing Voltage Controlled Oscillators (VCO) and power RF amplifiers to test interference across frequency bands, GPS (1575 MHz), Wi-Fi (2.4 GHz, 5.2 GHz, 5.8 GHz), and Bluetooth.
- Designed and implemented signal generators using NE555 chips to create precise triangle waveforms for controlling the VCOs, ensuring effective frequency modulation.
- Customized RF power amplifiers to enhance signal disruption range and efficiency, modifying components to fit specific frequency applications.

Published Biosensor and Microchip Research, Department of Electrical and Computer Engineering at UCLA

- Collaborated with a multidisciplinary team of engineers and doctors from UCLA to develop class III bioelectronics that performs consistent sensing and stimulation under strain
- Conducted various electronic tests including calibration, voltage tolerance, heat resistance, stress endurance, and environmental testing to ensure products met medical-grade standards
- Conducted live animal testing(mice), validating the effectiveness of sensors in detecting biomarkers proving accuracy and reliability in real physiological scenarios