Tin Thurein

EIT License: 166315 · Electrical Engineer · Hardware Enthusiast

tin.thurein@outlook.com | tinthurein | San Francisco | 415-699-1146 | tthurein@github.io

SUMMARY

Highly motivated electrical engineer with expertise in Electrical, Mechanical, and Communication engineering with hands-on experience focused on solving challenges in energy, transportation, and sustainability.

SKILLS

Software Engineering
C, C++, Python, Java, VHDL

Software
Orcad, Allegro PCB Design, Eagle CAD, KiCad, Altium, Mentor Graphics Xpedition, SPICE, HyperLynx, Vivado, National Instrument Circuit Suite, Autodesk Inventor, MATLAB

H/W Engineering
Xilinx FPGA, Analog, Mixed Signal & Power electronics circuit design, Logic Design, Filters & DSP, Circuit & PCB Simulation

Embedded Systems
AVR, STM32, PIC, CAN, I2C, UART, SPI, SpW, JESD204, Sensor interface, Protocol debugging hardware

PROFESSIONAL EXPERIENCE

Sandia National Laboratories Aug 2023 – present | Livermore
Sr. R&D Electrical Engineer
- Hardware engineer for high-speed, high-performance telemetry interfacing board.

KLA-Tencor Jun 2022 – Aug 2023 | Milpitas
Electrical Design Engineer
- Designed functional test fixtures (FUT) for stage motion controller PCBs, integrating high-speed ADCs, DACs, LVDS transceivers, and digital communication protocols including JESD204b, UART, SPI, and I2C to interface with FPGA.
- Developed embedded firmware and libraries for Functional Test Fixtures (FUT) and FPGA test-mode firmware.
- Authored Interface Control Document (ICD) specifications, and maintained Python scripts for automating test procedures and GUI.
- Conducted SPICE simulations, Power and Signal Integrity analyses utilizing HyperLynx.
- Designed high-speed stage motion controller board, managing the entire PCB design cycle from schematics capture, reviewing layout, PCB manufacturing to hardware bring-up and functional verification.

Analog Devices Jul 2019 – Jun 2022 | Milpitas
Sr. Reliability Hardware & ESD/Latch-up Engineer
- Responsible for reliability circuit designs and test setup development for accelerated testing of packaged and wafer-level chip-scale packaged devices.
- Developed and implemented reliability test plans for new products, including High-Temperature Operating Life (HTOL), Highly Accelerated Temperature and Humidity Stress Test (HAST), and Early Life Failure Rate (ELFR) tests.
- Troubleshooted PCB boards to identify root causes of failures occurring during burn-in or HAST cycles.
- Defined and developed ESD and Latch-up methodologies for new, existing, and fab-transferred products, ensuring characterization of ESD and Latch-up properties in accordance with JESD and AECQ standards.
- Developed and executed ESD/Latch-up device characterization plans, and conducted comprehensive data analysis on ESD/Latch-up related failures.

Nordson March Oct 2017 – Jul 2019 | Concord
Engineering: R&D Product Development
- Responsible for integrating EFEM (Equipment Front End Module) systems with plasma modules.
- Configured high-power RF generators and RF matching networks, and developed process recipes for various plasma and chemical deposition applications.
- Designed and tested new vacuum chambers and High-Flux Electrode (HFE) configurations.
- Enhanced process cycle time for customers by developing process recipes and optimizing RF power delivery systems and RF matching networks, achieving superior plasma treatment, uniformity, and throughput.
- Conducted Factory Acceptance Tests (FAT), trained customers, and performed QA and QC procedures on product shipments.

EDUCATION

University of California, Santa Cruz 2020 – 2022
M.S. in Electrical Engineering

University of California, Santa Cruz 2015 – 2017
B.S. in Electrical Engineering