

Tin Thurein

ELECTRICAL ENGINEER · HARDWARE ENTHUSIAST · EIT

☎ (+1) 415-699-1146 | ✉ tinthurein@outlook.com | 🏠 <https://tthurein.github.io> | 📱 tthurein | 🌐 tinthurein

Summary

Dedicated, professional, and highly motivated electrical engineer who possesses hands-on experience, and product development experience, with excellent communication and time management skills. Proficient in a wide variety of engineering software. Excellent team player who strives to go above and beyond to deliver a project that meets and exceeds expectations and thrives on challenging tasks.

Education

UC Santa Cruz

Santa Cruz, CA

M.S. IN ELECTRICAL ENGINEERING

Expected: March 2022

- **Research Areas:** Neuromorphic computing, Memristors

University of California, Santa Cruz

Santa Cruz, CA

B.S. IN ELECTRICAL ENGINEERING

June 2017

- Concentration in Electronics/ Optoelectronics
- Graduated with Honors in Major; Major GPA: 3.50
- **Relevant Coursework:** Digital Low Power CMOS Design, CMOS RF Design, Logic Design, Micro System Design, Computer Networks, Signals and Systems, Optical Electronics/Photonics, Digital Signal Processing, Digital Communications, Analog Electronics, Feedback Control systems, Electric Power Systems
- **Project Area:** Signal processing and interfacing, IoT, SCADA, ZigBee Mesh network, 3G Communication

Work Experience

Analog Devices

Santa Clara, CA

RELIABILITY HARDWARE & ESD/LATCH-UP ENGINEER

July 2019 - Present

- Responsible for developing and implementing reliability test plans for new products, conducting accelerated testing of packaged and wafer-level chip-scale packaged devices including the board design and setup of the test.
- Define reliability qualification requirements for new silicon, packages and process qualification and troubleshoot PCB boards and component level failures occurring during burn-in or HAST cycles.
- Define and develop ESD and Latch-up methodologies for all new, existing and fab transferred products to characterize ESD & Latch-up properties.
- Generate ESD/Latch-up device characterization plans and perform data analysis on ESD/Latch-up related failures.

Nordson March

Concord, CA

ENGINEERING TECHNICIAN

October 2017 - July 2019

- Provide technical assistance for developing advanced plasma cleaning systems.
- Develop process recipe configurations for various plasma applications.
- Perform electrical equipment installation, testing and failure investigation.
- Improve process cycle time by applying statistical analysis on collected etch and surface activation data, optimizing RF power delivery systems, and RF matching networks for highest plasma treatment, uniformity, and throughput.
- Perform FAT (Factory Acceptance Test) during the customers' buy-offs, train customers to familiarize with the MARCH HMI software as well as perform QA and QC procedures on product shipments.

Projects

HAST AND BURN-IN OVEN TEST SYSTEM AUTOMATIONS

- Designed controller boards for power supplies and scopes, high-voltage in-situ DUT voltage monitoring, current monitoring and vector drivers.
- Responsible for GUI, firmware and system level automation implementation over a wide range of HAST and Burn-in ovens.

AUTOMATED WATER MONITORING SYSTEM WITH SECURE CONTROL

(1st Place Pitch at Santa Cruz IDEA Hub 2017 for Senior Capstone project)

- An IoT Supervisory Control and Data Acquisition (SCADA) system with the capability of continuous monitoring reservoirs with secure remote access to control the pumps.

SIGNAL PROCESSING IN MATLAB

- Frequency Domain Adaptive Filter in MATLAB for echo cancellation of real and synthetic signals.

NETWORK ROUTER WITH FIREWALL

- A custom network topology with firewall in *Mininet*, only allowing network traffic with ICMP packets while blocking untrusted hosts.

REVERSI: INTERNET-CONNECTED TWO-PLAYER GAME WITH 16X32 RGB DISPLAY MATRIX

- A two-player wifi connected game with the ability to play against computer.

BALL CATCHING GAME ON FPGA

- Implemented in *Spartan 3E* FPGA development board with Display output via VGA port to the monitor, using keyboard arrow keys as an input.

AM/ FM RADIO RECEIVER

- Superheterodyne FM receiver with pre-selector, 2-stage mixer and demodulator using Phased Lock Loop.
- AM receiver with envelope detector and audio amplifier.

AUDIO AMPLIFIER WITH 20-20KHZ RANGE, LOW SNR

- An audio amplifier with a low SNR, adjustable volume and gain.

ADJUSTABLE POWER SUPPLY

- A switch mode, variable power supply with output voltage from 0 to 20 Volts, and adjustable current.

Skills

Software Engineering	C,C++, Java, Python, MIPS, Verilog, PLC, HMI
Engineering	FPGA/ CPLD, Analog/ Power Electronics, Logic Design, DSP, Analog & Digital Communication, Optical Communication, PCB, Circuit Simulation, Material Properties Mechanical design and assembly
Embedded Systems	I2C, UART, SPI, MicroControllers, Sensors, Protocol debugging hardware
Software	SolidWorks, Autodesk Inventor, MATLAB, Allegro PCB Design, Cadence Suite, LTSPICE, EAGLE CAD, National Instrument Circuit Suite, Xilinx, PSoC IDE, WireShark
Applied Mathematics	Control Theory, Linear Dynamical Systems, Machine Learning