

Tin Thurein

ELECTRICAL ENGINEER · HARDWARE ENTHUSIAST · EIT: 166315

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Summary

Highly motivated electrical engineer who possesses Electrical, Mechanical and Communication engineering knowledge with hands-on experience, with a focus on finding solutions to energy, communication and sustainability.

Education

UC Santa Cruz

Santa Cruz, CA

B.S. IN ELECTRICAL ENGINEERING

June 2017

- **Concentration:** Electronics/ Optoelectronics
- **Major GPA:** 3.50/4.00
- **Project Area:** Signal processing and interfacing, IoT, SCADA, ZigBee Mesh network, 3G Communication

City College of San Francisco

San Francisco, CA

ASSOCIATE OF SCIENCE & ENGINEERING

May 2015

- Dean's Honor List

RELEVANT COURSEWORK

- Computer Networks
- Signals and Systems
- Optical Electronics/Photonics
- Digital Signal Processing
- Micro System Design
- Logic Design
- Analog Electronics

Skills

Programming

C, MIPS Assembly, Verilog, PLC, HMI

Engineering

FPGA, Logic Design, DSP, Optical Communication, Analog & Digital Communication, PCB, Circuit Simulation, Material Properties, Mechanical design and assembly

Software

Wireshark, MATLAB, SolidWorks, Inventor, Allegro PCB Design, Cadence Suite, PSPICE, EAGLE CAD, National Instrument Circuit Suite, Xilinx, PSoC IDE

Lab Equipment

Spectrum Analyzer, Signal Generator, Signal Analyzer, Oscilloscope, Multimeter, High power RF generator and matching network, Thin Film Mapping Tool

Employment

Nordson March

Concord, CA

October 2017 -

PRESENT

ENGINEERING TECHNICIAN

- Perform electrical equipment installation, testing and failure investigation.
- Provide technical assistance to develop advanced plasma cleaning systems.
- Perform EFEM (Equipment Front End Module) system integration, FAT (Factory Acceptance Test), train customers as well as performing QA and QC procedures on product shipments.
- Improve process cycle time for customers by developing process recipe, optimizing RF power delivery systems, and RF matching networks for the highest plasma treatment, uniformity, and throughput.

Projects

AUTOMATED WATER MONITORING SYSTEM WITH SECURE CONTROL

(1st Place Pitch at Santa Cruz IDEA Hub 2017)

- An IoT Supervisory Control and Data Acquisition (SCADA) system with the capability of continuous monitoring reservoirs with secure remote access to control the pumps.
- Responsible for implementing control algorithms, 3G and ZigBee communication links, and pushing raw data onto Azure Cloud service.
- Designed, and installed electronic sensor interfacing modules and controls, created engineering schematics and system diagrams.

NETWORK ROUTER WITH FIREWALL

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

SIGNAL PROCESSING IN MATLAB

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

REVERSI: WIFI-CONNECTED TWO-PLAYER GAME

- A two-player wifi connected game with the ability to play against a computer on 16x32 RGB display matrix.

BALL CATCHING GAME ON FPGA

- Implemented in *Spartan 3E* FPGA development board with display output via VGA port to a monitor, and keyboard arrow keys as an input.
- Game logic is driven by Finite State machine and programmed using Verilog Hardware Description Language (VHDL).

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

- An audio amplifier with 20-20KHz Range, 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.