Navid Mir

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Education

ELECTRICAL ENGINEERING B.S. | *UNIVERSITY OF CALIFORNIA, SANTA BARBARA (UCSB)* JUNE '21

- 4.0 GPA
- Emphasis on *Digital Hardware Design* and *Digital Signal Processing*
- 9 x Dean's Honors List for Engineering, Engineering Honors Student, Tau Beta Pi Honors
- Activities: Undergraduate Research in Signal Processing, IEEE UCSB Chapter, Intramural Basketball, Pop's Orchestra

Work and Laboratory Experience

ASIC VERIFICATION INTERN | *WESTERN DIGITAL* *JUNE* '20 – PRESENT

- Work on automation tool for verification procedure of SSD controller ASIC
- Develop Python script to be integrated with Cadence verification tools for verifying ASIC blocks
- Write UVM testbenches for ASIC verification

UNDERGRADUATE RESEARCH ASSISTANT | *SIGNAL PROCESSING LABORATORY* JANUARY '20 – MARCH '20

- Worked on project involving beamforming algorithms for medical applications
- Developed Python script for SPI communication between microcontroller and ADC to read sampled data

ELECTRICAL ENGINEERING INTERN | *VIVAX-METROTECH* JULY '19 – SEPTEMBER '19

- Tested and optimized RFID transmitter circuit to attain required antenna output power while maximizing efficiency
- Used Altium Designer for PCB design of several configurations of RFID transmitter circuit
- Designed efficient high voltage switching power supply for D-class amplifier, controlled with C code on ARM-based MCU

Projects

A portfolio of my projects can be found at my website: navidmir.com

DSP ANDROID APPLICATION | *ECE 150: MOBILE EMBEDDED SYSTEMS* MAY '20 – JUNE '20

- Wrote Android mobile application in Java to allow piano audio sampling and note visualization
- Utilized Fast Fourier Transform (FFT) algorithm to perform spectral analysis of sampled audio

MOSFET FABRICATION | *ECE 120A: SEMICONDUCTOR DEVICE PROCESSING I* FEBRUARY '20 – MARCH '20

- Fabricated n-channel MOSFETs starting from bare p-type silicon wafers
- Performed photolithography, oxide growth, etching, doping, and metal deposition in clean room environment

LIQUID OXYGEN/METHANE ROCKET | *ROCKET PROJECT LABORATORY AT UCSB* APRIL '19 – JANUARY '20

- Researched on Kalman filtering algorithm to process sensor (IMU, barometer, GPS) data to estimate rocket position
- Configured RF communication between two development boards using LoRa to allow rocket to ground communication

FACIAL-RECOGNITION SMART LOCK | *SB HACKS V HACKATHON* JANUARY '19

- Worked on team project for a lock that grants entry to users via facial recognition of their photos uploaded on our website
- Designed and developed hardware and worked on software integration for the smart lock
- Awarded "Best Security Hack Award" sponsored by Arthrex, Inc.

Skills

SOFTWARE/DESIGN TOOLS: Verilog, C/C++, Python, MATLAB, Java, Arduino, Altium Designer PCB design, Linux, LTspice

HARDWARE: Analog and digital circuit design, embedded systems with microcontrollers (Raspberry Pi, Arduino) and FPGAs, through-hole and surface mount soldering

Awards

TBP SCHOLARSHIP | *TAU BETA PI (TBP) ENGINEERING HONORS SOCIETY* JUNE '20

ROGER WOOD SCHOLARSHIP | *UCSB ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT* APRIL '20

BOEING SCHOLARSHIP | *UCSB COLLEGE OF ENGINEERING SCHOLARSHIP COMMITTEE* JANUARY '19