Ketan Desai

ketszim97.github.io

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TECHNICAL SKILLS

Electrical
- PCB Design (RF)
- Soldering
- Circuit Analysis
- RF Lab Equipment

Computer
- Altium Designer, KiCAD
- AutoCAD, Fusion 360
- C, Python, SystemVerilog
- HTML, CSS, JavaScript

Mechanical/Prototyping
- 3D Modelling and Printing
- CNC Machines
- General Hand Tools, Lathes
- SMAW and MIG Welding

EDUCATION

University of British Columbia **Expected Graduation May, 2021**
Bachelor of Applied Science - Electrical Engineering

TECHNICAL WORK EXPERIENCE

Sierra Wireless **January, 2020 – September, 2020**
Hardware Engineer
- Worked in design team, assisting with design tasks, prototyping and PCB assembly and testing
- Performed automotive and ESD testing, determining failure points and ensuring IPC compliance
- Gained experience in compliance testing, RF PCB design using Cadence OrCAD

Microchip Technology **September, 2019 – December, 2020**
Product Design Engineer
- Wrote and tested SystemVerilog RTL for VLSI (ASIC) designs
- Developed RTL solutions for high speed PCI-Express applications
- Performed verification using coverage driven verification techniques
- Ensured static timing and timing closure criteria were met
- Wrote clean, readable and maintainable code

Canadian Space Agency/UBC Electrical and Computer Engineering **April, 2019 – August, 2019**
ORCASAT RF Co-op
- Created designs and tests for an RF (Radio Frequency) transceiver operating in the 433MHz frequency band to be used on the ORCASat CubeSat. This CubeSat will be used to calibrate large space telescopes.
- Fabricated and tested a PCB (Printed Circuit Board) based off these designs, fulfilling the RF specifications of the project.
- Gained experience using Spectrum Analyzers and Vector Network Analyzers, antenna matching and filtering
- Helped design a UWB (Ultra-Wide Band) antenna in ANSYS to act as calibration for the CHIME space telescope
- Built and operated a ground station using Ettus USRPs and GNURadio

TECHNICAL PROJECTS

ESP32-S2-INK, Personal **December, 2020 – December, 2020**
- Designed a development board for the Espressif ESP32-S2 Wi-Fi MCU in under 1 day
- Used Altium Designer to create a 6 layer design with dimensions of 35x17mm
- Opportunity to practice high density RF design in a short time frame

USB PD Source, Personal **October, 2020 – November, 2020**

- Produced a board that converts old laptop power supplies into USB Power Delivery compliant sources
- Capable of converting 19.5-36V into all PD voltages at up to 100W using a DC-DC Buck Converter
- Designed in Altium Designer and is intended to reduce e-waste by reusing old chargers for modern devices

JBC PD Soldering Iron, Personal **June, 2020 – July, 2020**

- Designed and assembled a PCB that can drive a JBC C245 handle using USB PD
- Incorporated high-power delivery with a PID control loop, capacitive touch buttons and OLED display
- PCB designed in Altium Designer, with 3D printed enclosure designed in Fusion 360

Active Wind Turbine, University Project **January, 2019 – April, 2019**

- Built a wind turbine that can track wind, and adjust itself to achieve MPPT (Maximum Power Point Tracking)
- Designed, tested and built a 3-phase permanent magnet synchronous generator capable of outputting 3W
- Awarded the top project for the ELEC391 course

ENGINEERING STUDENT TEAMS

Orbit, University of British Columbia **September, 2018 – Present**
Lead Hardware Designer, CDH

- Design PCB layouts and schematics
- Hardware design of the On-Board Computer: Central Data Handling
- Implement version control using Git and SVN

VOLUNTEER EXPERIENCE

Electrical and Computer Engineering Student Society **February, 2018 – September, 2019**
Vice President

- Coordinate social events for students
- Captain of ECE futsal team

IEEE Student Branch **November, 2018 – September, 2019**
Volunteer

- Plan and execute events

Musha Wevana, Marondera, Zimbabwe **January, 2016 – September, 2018**
Volunteer

- Tutored basic Math and English to 75 children

PROFESSIONAL AFFILIATIONS

IEEE **2018 – Present**
Engineers and Geoscientists BC **2017 – Present**

INTERESTS & ACTIVITIES

- **Hobby Electronics, 3D Printing and Building CNC Machines**
- **Soccer, Futsal, Squash and Golf**
- **Guitar**