



DHRUV PRANLAL

Electrical Engineering Student

CONTACT

(587) 936-3401



Pranlal@ualberta.ca



[GitHub Account](#)



EDUCATION

August 2019 – April 2024

Electrical Engineering BSc |
University of Alberta

SKILLS

Programming:

Swift, Python, VHDL, C/C++

Frameworks:

VSCode, Vivado, Clion, MATLAB,
MPLabX, MCUXpresso, STM32
Cube, Atom, PyCharm, Arduino,
Octave, Xcode, Jupyter Notebook

IC Design Programs:

Cadence Virtuoso, KiCad, LT Spice,
Waveforms, Altium, Circuit JS

Other Programs:

Office 365, Adobe Photoshop

EQUIPMENT

Electronics:

Soldering iron(Weller WES51),
Electronic testing devices, and
Bantam tools – Othermill pro

Design:

Creaform MetraSCAN 3D 750 Elite
and Dremel 3D45 Printer

Woodworking:

Drill press, NS150C and BN200C,
Festool KS 120 EB Miter Saw,
Laguna 14BX and Festool MFK 700
EQ

LANGUAGES

English (Fluent), Gujarati (Fluent)
and Swahili (Intermediate)

WORK EXPERIENCE:

May 2022 – August 2022

Firmware Developer Internship | [nVent](#) | *Edmonton, AB*

- Contributed to the development of device drivers using C++
- Efficiently repaired and maintained legacy chip prototypes through debugging, testing, and thorough documentation
- Expertly managed code changes and collaborated with engineering team members on firmware development projects using Gitlab

Machine Learning Research Assistant | [University of Alberta](#) | *Edmonton, AB*

- Provided editorial support and constructive feedback on a wide range of machine learning subject matter on Jupyter Notebook
- Acquired knowledge and created a comprehensive tutorial on the use of Matplotlib and Pandas libraries

PROJECT EXPERIENCE:

September 2022 – April 2023

Capstone Project - Quadcopter Drone

- Designed and implemented custom footprints and schematic symbols from detailed datasheets in KiCad
- Crafted comprehensive PCB layouts for the flight controller, including 20x20 and 30.5x30.5 millimetre boards to ensure optimal performance
- Created an integrated PCB antenna solution that communicated at 2.4 GHz with the controller

October 2022 – December 2022

Simple 8-bit CPU Design

- Programmed a seven segment display to provide user interface
- Modified and verified the functionality of a simple CPU
- Implemented a finite state machine controller for a CPU that fetched, decoded and executed the binary instructions that are stored in memory
- Integrated the controller and data path to form a working CPU

October 2021 – December 2021

Furnace Temperature Control

- Automated furnace switches through a C script that feeds off of readings from temperature sensors
- Implemented a user-specified temperature control and feedback on whether heating is required
- Combines an Atmel ATmega328p, LM35 sensor, push buttons, and LCD screen

Event Serial Data Logger

- Created a Data logger through C which recorded the time of digital logic transition from an input
- The event details are displayed on a computer terminal using ASCII format, through a serial configuration of a terminal program
- Implemented an Atmel AT Tiny 2313A, pushbuttons and a crystal oscillator

May 2019 – August 2020

Personal Project - Residential Maintenance Request Application

- Developed an application through swift enabling students to submit maintenance requests by capturing a photo/video of the issue, along with a brief description, directly to the maintenance team
- Implemented a storage solution for the user login system and user complaints on Google Firebase
- Improved overall efficiency of the maintenance team by 80%