VIKRAM BELTHUR

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United States Citizen - *Eligible for Security Clearance*

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GitHub Page

LinkedIn Profile

EDUCATION

University of Illinois at Urbana-Champaign

Aug 2018 – May 2022 (Exp)
BS Electrical Engineering
GPA: 3.41/4.00

Relevant Coursework

Digital Systems Lab. (ECE 385)
Mobile Computing Apps. (ECE 434)
Digital Signal Processing (ECE 310)
Electronic Circuits (ECE 342)
Data Structures & Algorithms (CS 225)
Comp. Sys and Programming (ECE 220)

SKILLS

Programming Languages
C++, Python, C, Java, MATLAB

Operating Systems
Linux, Windows

Competencies
LTSpice, GitHub, OpenCV Image Processing, Arduino, Raspberry Pi GPIO Programming, PCB design with KiCad, CAD with Fusion 360, developing STM32 drivers.

Tools
ARM Keil uVision, STM32CubeIDE

Interests/Hobbies
Saxophone, Drone Building, Hiking, Photography

OBJECTIVE

I am a junior studying electrical engineering. I am interested in internship/co-op opportunities in embedded systems, FPGAs, computer vision, wireless communications, and RF engineering/solutions.

WORK EXPERIENCE

High School Math Tutor
July 2020 – December 2020

- Tutored high school students in AP Physics and AP Calculus during the COVID-19 pandemic.
- Counseled students for admission to engineering majors, and reviewed college essays.

TECHNICAL PROJECTS

Graph Algorithms with Open Flights *Nov. 2020 – Dec. 2020*

- Built a directed graph in C++ with airport data from openflights.org.
- Implemented Depth First Search (DFS) traversal and calculated the shortest path between any two airports using Dijkstra's Algorithm.
- Created a Doxygen to produce detailed project documentation.

Autonomous Robot Vehicle *May 2020 – Present*

- Built a self-driving model car based on a Raspberry Pi 4B.
- Designed a circuit with DC motors, a servo motor, and an H-Bridge driver.
- Created a Python API to program DC and servo motors with the GPIO pins.
- Performed image/video processing, object detection, and lane detection with OpenCV on Python.

Py Image Processor *April – May 2020*

- Created a simple image processing tool with Python.
- Used OpenCV to change image color spaces, add salt-pepper noise, and perform noise reduction with various low pass filters.
- Built a GUI front end with TKinter to enhance user experience and browse files.

CLUBS & ORGINIZATIONS

Illinois Space Society (ISS) *Sept 2019 – March 2020*
Member of Avionics sub-team for NASA Student Launch Competition

- Built the payload and parachute deployment system for the descent of a high-powered rocket.
- Developed an RF package to transmit sensor data and payload launch clearance.
- Programmed Arduinos (in C) to interact with XBee Pro radios and sensors, such as IMU and altimeters.

CERTIFICATES

Introduction to FPGA Design for Embedded Systems (*In Progress)*

Object Oriented Data Structures in C++ (UIUC - Coursera)