VIKRAM BELTHUR

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EDUCATION:

University of Illinois Urbana Champaign (UIUC) *May 2022*

Bachelor of Science - Electrical Engineering (BSEE) - *University GPA* - 3.41/4.00

Selected Coursework: Digital Signal Processing and Lab *(Python)*, Computer Systems and Programming (*C/C++, Assembly*), Analog Signals and Systems, Intro. to Computing (*C/Assembly*).

PROJECTS:

"RasPiCar" - Autonomous Vehicle *May 2020 - Present*

- Building a self-driving model car using a ***Raspberry Pi 4*****,** a ***Coral (Google) Edge*** Tensor Processing Unit (TPU) and ***Python***.
- Using ***OpenCV*** with a wide angle camera to have the car navigate along a set path by detecting its boundaries.
- Programmed two DC motors and a servo motor using the RaspberryPi GPIO Pins with Python and the RPI.GPIO API

"HD Pong" - A Pong Clone *June 2020*

- Built a fully functional clone of the classic arcade game "Pong" in ***C++*** which runs in HD at 60 FPS on most computers.
- Used the low-level API ***SDL2*** extensively throughout this project - especially to render the video and to add sound effects to the game

Rocket Avionics (For NASA Student Launch Competition) *Sept. 2019 - March 2020*

- Developed a long range RF communications link to remotely deploy the rocket payload.
- Built an altimeter based parachute deployment system to ensure safe recovery of the rocket.
- Programmed mission critical code for Arduinos for use in the deployment system

ORGANIZATIONS:

Illinois Space Society - Avionics Team Member *Sept. 2019 - Present*

IEEE Member *Aug. 2019 - Present*

- Member of IEEE Computer Society
- Member of IEEE Aerospace and Electronic Systems Society

SKILLS:

Programming Languages: C++, Python, C, MATLAB, Assembly
Technologies: Raspberry Pi, Linux, Git, Arduino
Tools/Competencies: HTML, CSS, Visual Studio, Circuit Testing, Lab Equipment

ONLINE COURSEWORK:

Object Oriented Data Structures in C++ - Completed June 2020