SHOVAN SHAKYA

BRINGING IDEAS TO LIFE

5610 Graduate Cir, FL
(001) 8138096496
shovanshakya@usf.edu
momoisgoodforhealth.github.io

EDUCATION

UNIVERSITY OF SOUTH FLORIDA
B.S Electrical & Electronics Engineering
2021 – 2025, GPA: 3.55

LEADERSHIP
USF BCI Club – Vice President
USF SASE – Project Director

SKILLS

OpenCV, ROS, Git, Flask
PyTorch, Tensorflow
Android Studio, Unity,
Blender, FL Studio

Solidworks Electric
Siemens PLC, Labview
KiCad, Signal Generator,
Oscilloscope

Programming Languages:
Kotlin, Python, C, C++, C#,
Verilog, VHDL, Ladder Logic,
MATLAB

EXPERIENCE

Professional

Monterey Bay Aquarium Research Institute, Computer Vision Intern
June 2023 – August 2023

- Developed realtime disparity and distance estimation tool from fisheye stereo cameras with accuracy range (+– 300 mm) of 5 meters for desktop and VR.
- Integrated FathomNet YOLOv5 deep sea organism tracking with distance estimation.
- Used Sockets to send realtime frames, and distance information between OpenCV and Unity VR. Integrating OpenCV into Unity using Native Plugins. (C++ DLL)
- Developed pilot–friendly User Interface for VR Unity application.
- Enabled multiprocessing and CUDA for optimal realtime performance.

Universal Creative Orlando, R&D Software Engineering Intern
September 2022 – December 2022

- Developed Unity, C#, Siemens PLC applications for automation, testing and debugging.
- Developed website for file handling using Flask. Initiated and developed BCI and Spatial Audio applications with Emotiv, Unity, Dolby Atmos and WWise.
- Deployed a project involving a moving prop using stepper motors and Arduino.

University of South Florida, Research Assistant
May 2022 – Present

- Developed driving simulation environment using Unity, controlling Motek motion base. Established low latency communication between between client and motion base using NRF24L01 wireless transciever.
- Integrating Kinova Robot Arm, Intel Realsense Camera, LLM using ROS, OpenCV, Pytorch for disability assistance. PCB Design using KiCAD.
- Exploring RNN, LSTM methods for body gait prediction using markers.
- Configured TCP communication between cRIOs using LabView. Integrated VHDL on cRIO FPGA. Verified and tested project involving calculating impedance using Oscilloscope, TI C2000, RPI4 Microcontrollers and Matlab.

Projects

Student Unmanned Aerial Systems, Software Lead
January 2022 – Present

- Developing webserver for displaying IMU info, camera feed for raspberry pi in drone.
- Combining Ubiquiti Connectivit (UDP) and TS832 (Analog) data from drone to server.
- Assigning tasks to team members, conducting performance tests.

USF FSAE, Electrical Team Member
October 2021 – Present

- Developed Schematic design for engine harness along with testing gauges.
- Researching with transition to EV.
- Using LoRA module for data transmission between microcontrollers.
- Designing a 6 capacity battery box with team for storing and charging.
- Soldering, wiring, welding batteries & components for IEEE Electrathon electric car.

Developing CPU Design on Artix–7 FPGA. Developing VGA output using Basys 3 FPGA.
USF Hackathon Hackabulls 2022 – Solo Winner Funniest Hack (Javascript, Len Studio)