

VIKRANT DEY

B.Tech. Electrical Engineering
UG(II Year I Semester)
Contact No: 8133951196
Email: vdey@mt.iitr.ac.in
Registration No: B.Tech./EE/18118082/2020

Indian Institute of
Technology
Roorkee



Area of Interest

Deep Learning, Speech Recognition, Image Processing, Computer Vision, NLP, Electronics, IoT

Education

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2019	B.Tech. 2nd Year	Indian Institute of Technology, Roorkee	8.382
2018	Twelfth	Ramanuj Gupta Junior College	92.4 %
2016	Tenth	Silchar Collegiate School	96.2 %

Projects

Defence Research and Development Organisation SASE UAV Fleet Challenge | Inter IIT Technical Meet 8.0

October 2019 - December 2019

- Detection of green boxes on green grass through a swarm of three autonomous drones.
- A deep neural network robust for different backgrounds and illumination used for object detection.
- Connection between the drones established through WiFi and communication done via a cloud server provided by Google Firebase.
- Coordinates of the detected boxes sent to the server and the GPS locations marked on a satellite map using Google API.

3 Axis VR Gimbal | ArIES, IIT Roorkee

March 2019 - April 2019

- A 3 axis VR Gimbal was developed from scratch using a Raspberry Pi3.
- An Android app was developed to act as an interface between the gimbal and the mobile set for the VR using Android Studio.
- The CAD design of the 3-axis system developed using SolidWorks.
- Specific role was development of Android app and wireless communication between the app and server of pi.

Image Processing using FPGA | Electrical Department, IIT Roorkee

May 2019 - June 2019

- Operated on real-time video, performing image processing on the video frames and emboldened the edges, and changed the color components in each frame.
- The TRDB-D5M camera interface and VGA driver provided by Terasic were used to implement real time Image processing on the Altera DE2i-150 FPGA board.
- After each frame was processed and decoded to RGB, it passed through the custom logic block having edge detector, time-averager and color reduction modules.

3D propeller Clock | ArIES, IIT Roorkee

January 2019 - March 2019

- Persistence of vision was used to create an optical illusion wherein LEDs turning on and off for specific durations create a 3D clock when rotated at high speed.
- HC595 shift registers and Arduino were the main components for the project.
- Different patterns like globe and various character strings could be showcased on the frame.

Awards / Scholarships / Academic Achievements

- Bagged Bronze medal in the Inter IIT Technical Meet 8.0 DRDO SASE UAV Fleet Challenge 2020
- Stood 9th in the Matriculation Examination 2016. Received appreciation from Governor of Assam and a scholarship of 17000 INR from state BJP Youth Morcha.
- Stood 3rd in Assam Chemistry Olympiad 2017
- Stood 4th in Assam Chemistry Olympiad 2016
- Stood 6th in Mathematics Olympiad 2014

Skills

Computer languages	Python, C/C++, Verilog, Javascript, Perl
Software Packages	Tensorflow, Keras, PyTorch, OpenCV, Matlab, Raspberry Pi, Linux/Unix, Arduino, Eagle, Solidworks, Kaldi Toolkit
Additional Courses Taken	CS231n - Introduction to Neural Networks, Deep Learning by Andrew Ng, Projects in Machine Learning Beginner to Professional
Languages Known	English (SRW) , Bangla (SRW) , Hindi (SRW) , Assamese (SR)

Positions of Responsibility & Extra Curriculars

Artificial Intelligence and Electronics Society

April 2019 - present

- Currently, working on AUVSI-SUAS competition which will be held in Maryland, USA on 17 to 22 June 2020.
- Worked in the field of computer vision comprising of human detection and object detection using deep learning models such as YOLO, Imageai and OpenCV.
- Worked towards learning and implementation of different protocols like TCP/IP.
- Worked in the field of open-source hardware such as Arduino and Raspberry Pi which included processing of data using various sensors like Accelerometer and Gyroscope on MPU6050.

NSS(National Service Scheme) Member

2018-2019

- Worked as a member of the cell Rural Transformation through Education(RTE) and as volunteer for PJF (NGO).
- Worked as a volunteer in Blood Donation Camp 2018.

Cognizance 2019 (Technical fest)

2019

- Worked as event coordinator for the workshop "Image Processing using MATLAB"