Raghav Prabhakar

Hardworking, Ambitious and Tech/Science Geek

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EXPERIENCE

Thapar Satellite Development Center(ThapSat), TIET,Patiala — *Technical Staff*

January 2020 - Present

ThapSat aims to design and develop a Nano-Satellite capable of monitoring the environmental greenhouse gases present in the Punjab region. The primary objective of this satellite will be to study absorption spectra of the North Region contributing towards the Greenhouse Effect.

GirlScript Chapter Patiala, — Core Member (Technical and Software Team)

May 2020 - Present

Developer Student Chapter(DSC), TIET — *Core Member (Machine Learning Team)*

August 2019 - Present

Microsoft Student Chapter, — TIET, *Member*

August 2019 - November 2019

EDUCATION

Thapar Institute of Engineering and Technology, Patiala — *Bachelor of Engineering (BE / B-Tech)*

August 2019 - Present

Freshman, CSE Major, 9.13 CGPA (upto 2nd Semester)

Spring Dale Senior School, Amritsar — *High School Diploma*

April 2004 - May 2019

92% - 12th Class (CBSE) (High School Diploma)

10 CGPA - 10th Class (CBSE)

Core Member of Quiz Club and Member of Quiz School Team.

SKILLS

Python, C, C++

Machine Learning/Deep Learning

Tensorflow, Keras, Pytorch

Computer Vision

Backend - Django, Flask

WebScraping/WebDriving

Microsoft Office

AWARDS

- **Shortlisted for Final round of National Hackathon (NITJ)**
- **2nd Runner Up in INTACH Heritage Quiz**
- **3rd Rank - Thapar Hub/Google HashCode 2020**

LANGUAGES

- English
- Hindi
- Punjabi

PROJECTS

Self-Driving Car —

- **Making a Pseudo Lidar With Cameras and Deep Learning**
  LiDARs are great for depth estimation, but cameras are not. Depth estimation is one of the most important things for self driving cars, AR, VR, and many many more applications. In this project we explore deep learning approaches for 3D reconstruction from monocular images.
- **Deep Learning Based Behavioral Cloning for Self Driving Car**
  Created and trained several different deep learning models for behavioral Cloning.
- **Lane Segmentation**
  Trained U-Net and ResU-Net for lane segmentation that can detect lanes from front-facing RGB Images irrespective of day/night. Also tried classical Computer Vision Techniques.

Nucleus Segmentation From 2D Scans —

This project was an implementation of U-Net from scratch in the Bio-Imaging sector. It was also a part of the Kaggle Data Science Bowl 2019. A model with accuracy of 94.3% was made to detect cells and nucleus from scans.

AutoEverything —

It is an energy conservation project based on Image Processing and arduino. The goal was to reduce the electric consumption by automatically switching off electric appliances.

NBSU -

It was a government portal website for collection and organisation for New Born Stabilization Units.

Automatic Street Lighting System -

The traditional lighting system has been limited to two options ON and OFF only, and it is not efficient. Hence, wastage of power from street lights is one of the noticeable power loss, but with the use of automation, we are aiming for a smart lighting system in which the street lights will be turned OFF during day-time, otherwise the lights will remain Dim/ON.

BloodX -

We created an app to ease the process of donating and finding blood. All of the processes were transparent and we used machine learning to predict if the user is coming to donate blood next month or not so that we can pre-organise our marketing strategies towards them or incentive them to donate blood.