Sankalp Shekhar

- 14 September 2000
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Education

B.Tech Computer Science and Engineering
Manipal Institute of Technology, Manipal | 2018-2022|CGPA 8.4/10

Class XII
Bhavan's Kolkata (CBSE) | 2018 | 93.6%

Class X
Bhavan's Kolkata (CBSE) | 2016 |CGPA 10.0

Skills

Languages:
C, C++, Java, Python, MATLAB, Bash

Libraries:
NumPy, Pandas, Scikit Learn, OpenCV, Matplotlib, Librosa, Tensorflow, Point Cloud Library

WebDev :
Basics of HTML, CSS, JS

Robotics and Simulation :
ROS, Gazebo, Arduino

Hardware Descritpion :
Verilog

Other:
AutoCAD, Git, LATEX

Extra-Curricular

Member @ Leaders of Tomorrow
- Organized talks & workshops
- Participated in Model United Nations and debates held across the country.

Music Community @ Chords & Co.
- Conducted music Workshops
- Played in cultural festivals

Work Experience and Internships

Dec'19	Winter Intern	Ernst & Young LLP

-Worked on Digitization of Tax Invoices and Shipping Bills.
-Removal of Stamps and Watermarks from documents.

Since Aug'19	AI Division Member	Project Manas- AI Robotics Club

-Worked on Lane Detection, Obstacle detection and tracking, Detection of Road Signs.
-Working on Motion Planning for Autonomous Parking.

May-Jun'19	Summer Intern	Consortium for Scientific Research, Kolkata

-Studied various properties of thermal imaging, and its application in scientific research.
-Created a Python module for analysing thermograms from open datasets.

Research and Projects

ElectroSheep
Used Behaviorial Planning to create an algorithm to play a game where the task is to corner sheep at different corners, using a dog, while avoiding skunks, with the image frames of the game as input.

Euclidean Cluster Extraction of PointClouds
Used PointCloud Library with ROS to process LIDAR scans, to cluster pointclouds for detecting obstacles.

Music Genre Classification and analysis using Python and Librosa
Explored various methods for audio classification and fingerprinting, including Shazam's algorithm, and classification using spectrograms.

Thermos: A Python module for processing thermograms
-As a part of internship at CSR, developed a python module that can process thermograms to provide deeper insights, such as hotspots, temperature profiles and isotherms.
-Used the module on NASA's Infrared Zoo dataset to make a classifier to classify animals into warm or cold blooded.

SudokuSolver
A program that detects a sudoku using a smartphone camera and solves it using Backtracking.

Achievements

Oct'19	Best Research Paper Award

Presented a paper titled "An Intuitive Method to Gain Insights from Thermal Images and use them for Classsification and Tracking Objects" in the university's technical festival and received the award for the best research paper in the Computer Science category.

May '18	Best Orator Award

Awarded for excellence in debates, quizzes and other public speaking events.

Nov'17-'18	School Captain

Served as the school captain of my school.

MOOCs and Interests

Interests	Computer Vision, Robotics, Machine Learning, Deep Learning, Drones, Control Theory, Autonomous vehicles, Motion Planning.
MOOCs	Introduction to Tensorflow for AI, ML and DL on Coursera & CS231n-CNNs for Visual Recognition by Stanford University. Deep Learning Specialization on Coursera