

Shreyas Kowshik

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Github:<https://github.com/shreyas-kowshik/>

ACADEMIC DETAILS

Education	Institute	Year	CPI / %
Integrated Msc.: Mathematics And Computing	IIT Kharagpur	2017- Till date	9.47 / 10
12th	Thakur Vidya Mandir, Mumbai	2015 - 2017	96.31 %
10th	Thakur Public School, Mumbai	2015	97.5 %

RESEARCH PAPERS

- **Traffic Sign Detection Using Hybrid Features And CNN**

October 2018

- Proposed a unique Branch CNN architecture to reduce the model parameters manifold.
- Submitted at the 8th ICPRAM, 2019.

MAJOR PROJECTS

- **Autonomous Car**

Autonomous Ground Vehicle Research Group

(Guide: Prof. Debashish Chakravarty , March'18 - till date)

- Working to convert Mahindra E2O into a fully operational self driving car
- Experimented with CNN architectures using primitive image feartures like HOG and SURF to reduce computation size of architectures.
- Worked on the Frenet Planner for efficient highway trajectory maneuvers. .
- Research Areas: Path Planning, Computer Vision.

- **Eklavya 4.0**

Autonomous Ground Vehicle Research Group

(Guide: Prof. Debashish Chakravarty , April'18 - June'18

- Adjusted **2nd** in **Intelligent Ground Vehicle Competition, 2018.**
- Worked on **robot-localization, Timed Elastic Band** ROS local planner, **lane detection** and **waypoint navigation.**
- Implemented **SVM** based **object-detection** and **lane detection** using **pixel-clustering.**

- **Image Dehazing Using Dark Channel Prior**

<https://github.com/dishank-b/dark-channel-prior>

Image Processing Term Project

- Implemented the paper '**Single Image Dehazing Using Dark Channel Prior**'.
- Used a **guided filter** to refine the transmisison map to obtain better quality images.

- **Kharagpur Robosoccer Student's Group**

Guide: Prof. Jayanta Mukhopadhyay , April'18 - June'18

- Worked on the software stack for soccer playing robots in robocup.
- Implemented a **fuzzy-logic**, based passaing mechanism.
- Wrote a RRT* planner from scratch in C++.

SIDE PROJECTS AND PAPER IMPLEMENTATIONS

- **Reinforcement Learning Stack** <https://github.com/shreyas-kowshik/RL-algorithms>
 - Implementation of RL algorithms on Open-AI Gym Environments.
 - Implemented **Dynamic Programming, Monte Carlo, Temporal Difference Learning, Deep Q-learning** and **Policy Gradient** algorithms.
- **Deep Convolutional Generative Adversarial Networks** <https://github.com/shreyas-kowshik/Generative-Models-Tensorflow>
Paper Implementation

AWARDS AND ACHIEVEMENTS

- **2nd Runner Up**, Image Processing Event, Fortress, Kshitij, 2017
- **Gold Medal, Indian National Chemistry Olympiad** : Among the top 35 students nationally to be selected for the training-cum-selection camp for the International Chemistry Olympiad (IChO) 2017.
- **KVPY 2017. All India Rank 18** : One of the prestigious examination initiated by Department of Science and Technology, Government of India

TECHNICAL SKILLS

- **Languages** C, C++, Python, Matlab, \LaTeX
Libraries and Tools Tensorflow, OpenCV, ROS, Octave
Field of Interest Computer Vision, Path Planning, Machine Learning, Reinforcement Learning.