Shreyas Kowshik

C 415 , Nehru Hall,
Indian Institute of Tehnology, Kharagpur
West Bengal, INDIA - 721302

Email-id : **shreyaskowshik@iitkgp.ac.in**
Mobile No.: **9892425461**
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
  - Adjuged **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.
- **Path Planning Algorithms** https://github.com/shreyas-kowshik/Planning
  - Implementation of Path Planning Algorithms in C++.
  - Implemented **Djikstra**,**RRT**,**RRT*** and **A* with configuration space**.
- **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
- **2nd**, Image Processing Event,Pixelation,NSSC,2018.
- **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 presitigious examination initiated by Department of Science and Technology, Government of India
- **3rd Overall,HSC Board** : 12th Std. State Board Examination

TECHNICAL SKILLS

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