SAJAL GOYAL

Second Year Undergraduate
Dept. of Chemical Engineering, IIT Kanpur

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EDUCATIONAL QUALIFICATIONS

Year	Degree	Institute	Performance
2022 (expected)	B.Tech, ChE.	IIT Kanpur	7.96 /10.0
2018	ISC - XII	Kautilya Sr. Sec. School, Kota	89.80 %
2016	ICSE - X	St. Peters College, Agra	95.33 %

SCHOLASTIC ACHIEVEMENTS

- Secured All India Rank 1981 ,amongst 160,000 students, in the **JEE Advanced 2018.**

RESEARCH EXPERIENCE

TEAM AUV-IITK
  (May 2019 – till date)
- Mentor: Prof. Mangal Kothari.
- Implemented Shape Detection and Tracking Algorithm in the bot to detect complex objects and their centre under water using OpenCV.
- Tweaked the vision layer to perform image processing tasks while improving its robustness.
- Using Simulated Stereo camera, created a disparity map of simulated environment on Gazebo.
- Created Labelled dataset for training of bot using YOLO Algorithm for 10 classes.

TECHNICAL SKILLS

- **Languages:** C, C++, Python.
- **Softwares:** MATLAB, Autocad, Gazebo.
- **Frameworks:** ROS, OpenCV, Tensorflow.
- **Platforms**:   Windows, Linux(Ubuntu).
- **Others**:   HTML, Git .

RELEVANT COURSEWORK

INSTITUTE COURSES : Applied Probability and Statistics(i), Fundamentals of Computing, Computational Methods in Engineering, Introduction to Electronics(i), Real Analysis, Linear Algebra and Ordinary Differential Equation.
ONLINE COURSES : Neural Networks and Deep Learning, Improving Deep Neural Networks
(i) – Currently Doing

MISCELLANEOUS

- **Autonomous Wrapping Machine** : Course Project TA202 – Prof. Mohit Law
  A group project involving the making of autonomous machine from scratch which is capable of wrapping cartons and pushing it to conveyor belt.
  The machine is designed with Fusion360 and have motors controlled by Arduino Uno board.