

## Shubham Garg

Second Year Postgraduate  
Department of Electrical Engineering

garg.shubham@iitgn.ac.in  
+91 9589737233

### Education

Degree	Institute	CPI/%	Year
M.Tech	IIT Gandhinagar	8.38	2018-present
B.Tech	SGSITS, Indore	7.4	2014-2018
Class XII	Canyon H.S. School, Bhopal	79.2	2012-2013
Class X	Canyon H.S. School, Bhopal	78.83	2010-2011

### Mtech Thesis

- **Restoration of 3D scenes using 3D digital models;Prof. Shanmuganathan Raman ; [2018-present]**
  - Generative models like GANs and Encoder-Decoder are promising approaches towards this goal.
  - Use of raw data points instead of using voxels or meshes as inputs for training neural network.
  - Literature survey of earlier work related to thesis like PointNet, PointNet++, PCN, Topnet.

### Course Projects

- **Object Recognition and Counting;Prof. Nipun Batra; [Feb-May 2019]**
  - Design and implementation of R-CNN Model for object detection and counting.
  - Pytorch Deep learning library used for building the model in python.
  - Compared with other object recognition models such as YOLO-V3 using pre-trained weights.
- **Extraction of the Foreground Object from Images;Prof. Shanmuganathan Raman; [Sep-Dec 2018]**
  - Used Alpha Matting one of the Computer Vision technique with global matting.
  - Modeled the image pixel color as a linear combination of foreground and background color.
  - Implemented in MATLAB from scratch using alpha matting dataset
- **Image Forensics ;Prof. Nitin Khanna; [Sep-Dec 2018]**
  - Aim to detect the use of global contrast enhancement and histogram equalization.
  - Analyzed the image in the frequency domain using Discrete Fourier Transform.
  - High Probability of True detection was achieved. 0.99 percent and false alarm 0.1 percent.
  - Implemented algorithm in Matlab from scratch using UCID dataset.

### Technical skills

- **Languages:** Python, Matlab, C, C++
- **Tools:** Latex, EAGLE(PCB designing), Proteus.
- **Courses:** Machine Learning, 3D Computer Vision, Digital Image Processing.

### Positions of Responsibility

- **Lab Assistant: Electrical lab: IIT Gandhinagar**
  - Explained and demonstrated the experiments to students.
  - Evaluated lab reports, tests, and performance in viva and held office hours to ensure students understood course concepts.
- **Teaching Assistants: Design and innovation: IIT Gandhinagar**
  - Explained the designing task to 142 students in an intermediate course.
  - Evaluated homework, presentation, and projects.

### Extra-Curricular Activities

- **Received Most Popular Team** award in advertisement making competition. organized by E-Cell,SGSITS,Indore.