

# Ravi Singh

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## Education

### GGSSIP University

B.TECH IN EEE | 7.96

Maharaja Agrasen Ins. of Tech, Delhi

2017 - 2021

### Senior School Certificate Examination

12 CBSE SCIENCE | 89.6

SRDAV Public School, Karkardooma

2015 - 2017

### Indian Certificate of Secondary Education

10 ICSE SCIENCE | 93.8

The Chintels High School, Kanpur

2004 - 2015

## Experience

### Inspektlabs

COMPUTER VISION INTERN, CVISIONAI

Dwarka, Delhi

Nov 2019 - Present

- It is startup which help their customer in easy claim assessment using Machine Learning and deep learning. It is Started by IIT-Delhi and ISB alumni. It is now a part of barclays-london-program.
- Built Object detection model like R-FCN, Cascade RCNN, EfficientDet-D6, CornerNet. My work was to do many experiments on these models and improve mAP on our 25k dataset (Damage Detection).
- Studied research papers to find model behaviour and tuned the hyper parameter accordingly.
- developed many utility scripts which helped in day to day work.

### IEEE-MAIT

VICE CHAIRPERSON

Delhi

Jan 2020 - Present

- I was promoted to vice chair after being Technical coordinator of IEEE-MAIT for a year.
- Handle all day to day job of our society.
- Teaching a weekly class on Machine Learning in our college.
- Mentor of Ethical Hacking, PCB designing and Machine Learning Workshop.

### LBD Pvt.Ltd

TECHNICAL INTERN

Delhi

Apr 2018 - Jul 2018

- LBD Robotics is Start-up by Mr. Mayank Gupta, former DTU Professor.
- They work in area of Robotics, R.O.S, Electronics and Embedded system. My day to day work was PCB designing, Learning Python and understanding client Handling. I completed making Arduino from scratch on Professional software called Altium.
- Learned Python and performed many Experiments.

## Projects

### Speech2Face

SOUND AND IMAGE PROCESSING USING DEEP LEARNING

[Link](#)

Implementin Research Paper.

- Designed a neural network model that takes the complex spectrogram of a short speech segment as input and predicts a feature vector representing the face. More specifically, the predicted face feature represents a 4096-D face feature that is extracted from the penultimate layer (i.e., one layer prior to the classification layer) of a pre-trained face recognition.
- This work is to study to what extent we can infer how a person looks from the way they talk. Specifically, from a short input audio segment of a person speaking, our method directly reconstructs an image of the person's face in a canonical form.

### UrbanSound8K

SOUND PROCESSING USING DEEP LEARNING

[Link](#)

- Urban Sound Classification project was performed on a data set called urbansound8K which has 10 classes of sound such as car, AC etc. For classification I have used ANN and XGBOOST, random forest and stacked model.
- Concepts involved were nyquist sampling theorem, ANN, Mel-frequency cepstral coefficients.

## Assist Me

[Link](#)

### IMAGE CAPTION

- I have BUILD a Deep Learning Model which can describe an image based on a research paper by Fee Fee li.
- In this project there are two major parts Object recognition, Caption generation. It is a multi-modal project. I used ResNet50 for object recognition. The output of ResNet50 and language model is merge and feed-ed to a LSTM for caption generation.
- Made a website where someone can upload a photo and see its caption. Generate a voice which can read out the caption (Amazon Poly).

## Neural Style Transfer

[Link](#)

### IMAGE PROCESSING USING DEEP LEARNING

- Neural style transfer is an optimization technique used to take two images—a content image and a style reference image (such as an artwork by a famous painter)—and blend them together so the output image looks like the content image, but “painted” in the style of the style reference image.
- Libraries used were TensorFlow, Keras, opencv, PIL
- This is implemented by optimizing the output image to match the content statistics of the content image and the style statistics of the style reference image. These statistics are extracted from the images using a convolutional network.

## Car Asseessment

[Link](#)

### READING RC AND SPEEDOMETER AND DETECTING DAMAGE OF A CAR

- Detected Car Damage using Facebook's detectron.
- Used YOLOv3 to detect the reading of Odometer.
- Used Google's API to read RC of a car and then Regex to take out useful information from it.

## Languages and Framework

3+ years: Python • C

1+ years: MATLAB • C++

0+ years: Bash • R • Julia

Git/Github • AWS | GCP • Linux | ubuntu | ROS | Windows

PyTorch • Tensorflow • Keras • Apache MXNET(GluonCv)

Embedded Systems • Apache Spark

## CourseWork

Machine Learning - Coding Ninjas

PySpark - Udemy

Neural Networks and Deep Learning - Coursera

The Data Scientist's Toolbox - Coursera

Improving Deep Neural Networks - Coursera

Structuring Machine Learning Projects - Coursera

Data Visualization with python - Coursera

## Conferences and Workshops

Contributor to KOSS IIT Kharagpur

IEEE AIYSWIC, Mysore 2018

PyData Aug 2019

Data Science using R (IIIT-Delhi) Jan 2019

## Publications and Articles

Object Detection using mmdetection [medium](#) and [Analytics Vidhya](#)

## Contact Me

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