

# Dhruv Tongia

B.Tech – Mechanical Engineering – IIT, Dhanbad

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## PROJECTS

### Real-time facial emotion recognition

Tech Stack – Keras, OpenCV, Python

- Implemented a real-time facial emotion recognition algorithm using a convolutional neural network from scratch and trained it on the fer2013 dataset.
- Took real-time images through webcam using OpenCV and after preprocessing of the images, passed it through the model.
- The model performed well on the test dataset with an accuracy of 59.12%.

<https://github.com/dhruvtongia/Real-time-face-emotion-recognition->

### Single-Shot Multibox Object Detection

Tech Stack – Python, PyTorch, OpenCV

- Used the pre-trained single-shot multibox detection model to classify and localize the objects in the video. The model was trained on VOC and COCO dataset using VGG as network architecture.
- The model was trained on 20 classes. The model was able to classify the objects pretty well with some false positives.

[https://github.com/dhruvtongia/object\\_detection\\_through\\_ssd](https://github.com/dhruvtongia/object_detection_through_ssd)

### Handwritten Digit Recognition

Tech Stack – Keras, NumPy, Python

- Developed a hand-written digit recognition algorithm using convolutional neural networks.
- Tested furnished algorithm by predicting the digit in a 28-pixels by 28-pixels grayscale image with an accuracy of 98.02%.

<https://github.com/dhruvtongia/Handwritten-digit-recognition>

### Code Player

Tech Stack – HTML, CSS, Javascript

- Developed a web application that allows the user to write code in HTML, CSS, and JavaScript and run it while simultaneously viewing its output on the same screen. It saves the hassle of switching between the code and the browser window again and again.

<https://github.com/dhruvtongia/Code-Player>

## EDUCATION

### Indian Institute of Technology (ISM), Dhanbad — B.Tech Mechanical Engineering

JULY 2018 - MAY 2022 CGPA – 8.78

### Yash Public Senior Secondary School, Nagda-2018

12th - APRIL 2017 - APRIL 2018 - 91%

### The Aditya Birla Public School, Nagda-2016

10th - APRIL 2015 - APRIL 2016 - 10 CGPA

## SKILLS

- **Strong:** Competitive Programming, Data Structures, and Algorithms, C++, C, Operating Systems
- **Intermediate:** Keras, DeepLearning
- **Beginner:** Git, Python, OpenCV, Pytorch, HTML, CSS, Javascript, Bootstrap

## ACHIEVEMENTS

- **JEE ADVANCED-2018** General Rank 6040(Selected among 3% of students who appeared for the exam).
- 1818 (max) rating on Codechef. ([dt\\_1812](#))
- Global rank 853 in the coding challenge conducted by Credit Suisse.
- 5 star Gold Badge in Problem solving at Hackerrank.
- Global rank 511 in November challenge on Codechef.
- Global rank 3025 in Google Kickstart Round C 2020.

## POSITIONS OF RESPONSIBILITY

- Coordinator of Table Tennis Club, IIT(ISM) Dhanbad
- Volunteer at Fast Forward India – NGO run by students of IIT(ISM) Dhanbad.

## EXTRACURRICULARS

- Winner of Inter House Table Tennis Competition 2019.
- National Sports Organisation, IIT(ISM) Dhanbad
- Table Tennis, Swimming, Badminton