

# Parth Goyal

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## Education

### Indian Institute of Technology Ropar

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING

CURRENT C.G.P.A : 8.39/10

Ropar, India

August 2017 - Present

### Central Board of Secondary Education

AISSCE (CLASS 12 PCM): 95.7%

AISSE (CLASS 10) C.G.P.A : 10

Hisar, India

## Skills

**Programming Languages** C/C++ (Primary Language), Python, Dart (Basics), Javascript

**Frameworks / Libraries** TensorFlow, Keras, Android Studio, Flutter

**Softwares / Tools / OS** Git, Linux(Ubuntu)

## Projects

### Indian Coins Detection and Instance Segmentation using MASK R-CNN

TensorFlow, Keras

- Detects masks and predicts class for each instance of coin in the image and draws bounding boxes along with it
- Used the **ResNet-FPN-101** and **Region-Proposal-Network (RPN)** architecture along with ROI Classifier & Bounding Box Regressor for segmentation
- Converted masks to bounding boxes and manually annotated images using **VGG Annotator**

### RISC-V Assembly Code Simulation

Javascript, Lexer, Python

- Converted Assembly code (RISC-V) to Machine code using Lexical Analysis
- Handled .data variables and .text variables and stored them in Memory after conversion
- Build classes such as CPU, System, Register, Registry Access, Main Memory and Control for simulation of the Machine Code

### Neural Style Transfer

TensorFlow

- Implemented the Neural Style Transfer Algorithm created by Gatys et al. **A Neural Algorithm for Artistic Style**
- Generated the Style Matrix, to calculate the content and style costs and produce the style weights

### Spam Message Filter

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- Developed a program which classifies text/email messages as spam and not spam
- Used **Levenshtein distance** for measuring distance between strings
- Implemented **K-Means Clustering Algorithm**

### Other Projects

Flutter, Dart | Raspberry Pie |

- Easy List App for keeping records of favorite items and managing them using Flutter
- Image to OCR to Speech using TTS engines for blind people on Raspberry Pie

## Relevant Courses

### Computer Science

Deep Learning Specialization (Coursera), Data Structures, Computer Architecture, Programming Languages and Pragmatics, \*Operating Systems, \*Database, \*Analysis and Design of Algorithms

### Mathematics

Probability, Linear Algebra, Calculus, Discrete Mathematics, Differential Equations

### Electrical

Signal and Systems

## Positions of Responsibility

### Branch Representative

June 2018 - Present

Represented my CS batch 2017 and acted as a bridge between students and academic staff.

### Smart India Hackathon (SIH) Mentor

February 2019 - March 2019

I was the mentor of 2k18 CSE batch's team that went for **Grand Finale** for SIH, working on a Android Application (AGRIZONE) for Agriculture and Rural Development.

## Miscellaneous

### JEE Rank

Secured a rank of **1027** (Out of **1.5 million candidates**) in Joint Entrance Exam, 2017.

### Institute Merit Scholarship

**100%** merit scholarship offered by the Institute for getting a rank under 1500.

### Pehchaan-ek-Safar (NGO)

Taught kids belonging to poor background as a part of NSS activity.

### Roshni App for Blind People

Worked along with a PhD student to detect various Indian currency notes. Made dataset from scratch.

### BAJA-SAE India Volunteer

Volunteered in the **BAJA-SAE** India event held in IIT Ropar in March 2018 and appointed as 1st Year Head.