

Dear Candidate,

In this task you will deal with a simplified problem of traffic signs classification for autonomous car systems. The training dataset can be downloaded [here](#).

The images of traffic signs are divided into 21 classes:

- 0 - speed limit 20
- 1 - speed limit 50
- 2 - speed limit 70
- 3 - no overtaking
- 4 - roundabout
- 5 - priority road
- 6 - give way
- 7 - stop
- 8 - road closed
- 9 - no heavy goods vehicles
- 10 - no entry
- 11 - obstacles
- 12 - left hand curve
- 13 - right hand curve
- 14 - keep straight ahead
- 15 - slippery road
- 16 - keep straight or turn right
- 17 - construction ahead
- 18 - rough road
- 19 - traffic lights
- 20 - school ahead

### Part I

Please design and create a model to classify these traffic signs with the best performance. Additionally, design a new, efficient model - with a negligible drop in performance - suitable for deployment on edge devices e.g mobile phones.

### Part II

It turned out that autonomous cars of your client are not very good in sharp turns and you are therefore asked to improve classification performance on left and right curve warning signs (classes 12 and 13 from the list above).

### Expected output:

Please provide a GitHub repo for both parts (I and II) containing:

- code to train and test the models
- detailed reports documenting
  - data analysis and preparation
  - model selection and experiments
  - error analysis
  - potential future improvements

Please provide all error analyses on the test dataset which can be downloaded [here](#).

Good luck!