# Generally

- I trained two models to different time ranges in data.
- They crossed 90% accuracy on validation datasets. Hope they work same on test data!

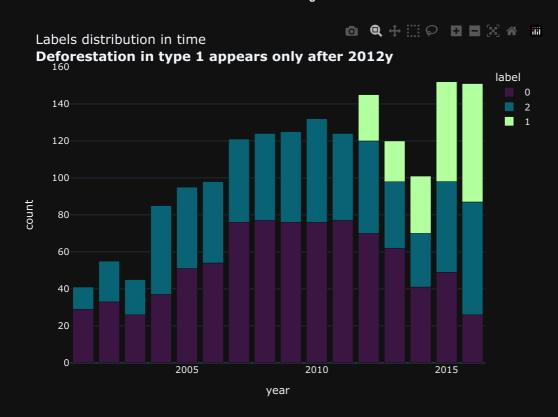
### I've done twom main steps

#### 1 - Data recognition

I saw that data can be splitted by 2012y.

Before, only two labels appear and after this year 3rd label is active.

I've decided here to train two models for different time ranges.

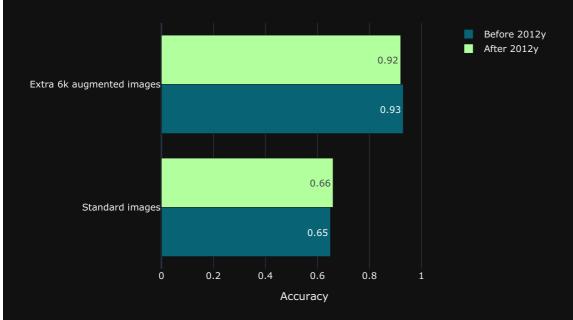


#### 2 - Image augmentation

I've made synthetic data (~6k) using some augmentation technics (Rotatino, changing brightness, vertical shift). It multiplied train dataset with new images, similar to real but giving new information to models.

It improves models accuracy by ~25 %-points

#### Models training history

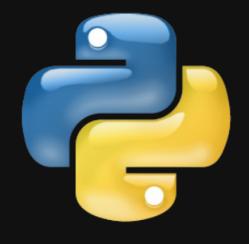


## To do in future

Obviously, there is some neccessary steps to do, however, I can't code everething in one day :) I see two main steps to do:

- error analysis to show and fix weak points of these models
- hyperparameter tuning

## Main used staff











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