Internship report

Data Science MSc, University of Padua

Work, carried out

During the internship, following tasks were completed:

1. Selection of architecture of the neural network for the task;
2. Preparing train, validation and test datasets for training neural network:
   a. Manually labelling the and types of objects, presented on the photos;
3. Writing code pipeline for data pre-processing, training, and evaluating;
4. Implementing an algorithm for downloading datasets;
5. Implementing an algorithm for evaluation of confusion matrix;
6. Visualizing image augmentation functions, and selecting proper augmentation pipeline for training the model;
7. 
8. Selecting the best hyperparameters (number of steps, training dataset size, batch size) for training the model;
9. Documenting theory of how a operates;
10. Increasing performance metrics of the model up to 97.5% of video fragments, where the food was correctly detected and classified;
11. Implementing a loss curve visualization, which was not present in Tensorflow Object Detection framework.

Critical issues

During the internship, no critical issues were observed. Main tasks of the internship were completed.

Date:

03.10.2022

Signature: