ABSTRACT

There is an ever-increasing amount of image data in the world, and the rate of growth itself is increasing. Info trends estimates that in 2016 still cameras and mobile devices captured more than 1.1 trillion images. According to the same estimate, in 2020 the figure will increase to 1.4 trillion. Many of these images are stored in cloud services or published on the Internet. In 2014, over 1.8 billion images were uploaded daily to the most popular platforms, such as Instagram and Facebook.

Going beyond consumer devices, there are cameras all over the world that capture images for automation purposes. Cars monitor the road, and traffic cameras monitor the same cars. Robots need to understand a visual scene in order to smartly build devices and sort waste. Imaging devices are used by engineers, doctors and space explorers alike.

Objects contained in image files can be located and identified automatically. This is called object detection and is one of the basic problems of computer vision. As we will demonstrate, convolutional neural networks are currently the state-of-the-art solution for object detection. The main task of this project is also able to identify and test convolutional object detection methods.

LIST OF FIGURES