Object Detection in an Image

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Abstract

Here comes an abstract...

1 Definition

1.1 Project Overview

The main challenge in this project is to create a model that identifies many objects in an image. This challenge involves two main tasks. The former identifies in an image where it is the position of an object that it could be classified, and around it, we are going to draw a bounding box. The latter classifies those bounding boxes correctly, labeling a chair as a chair, a table as a table, and a human hand as a human hand.

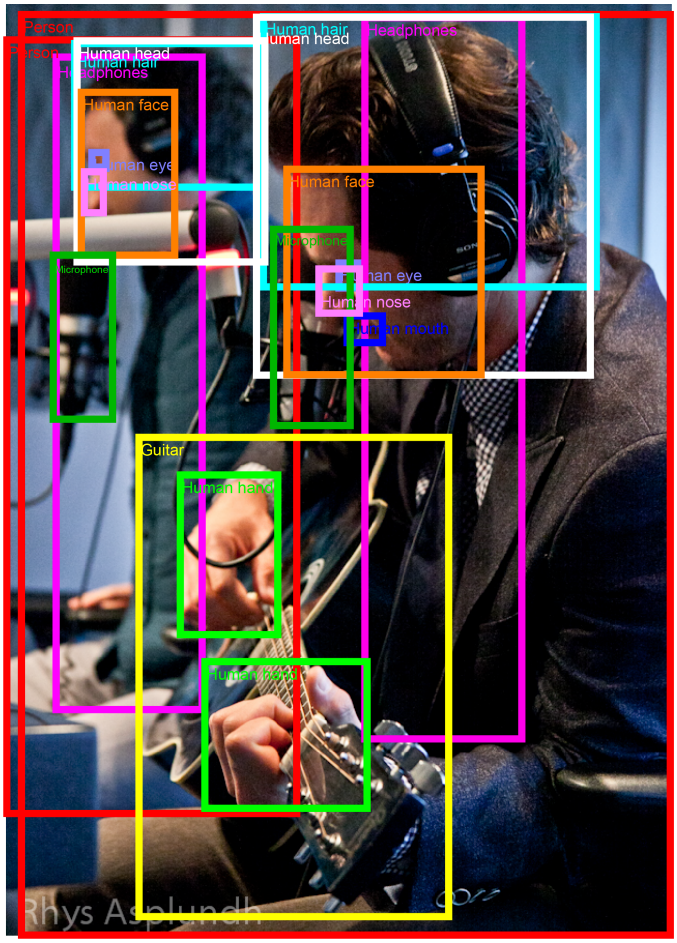

Figure 1: Mark Paul Gosselaar plays the guitar by Rhys A. [2]

The Kaggle challenge created by Google called Open Images 2019 - Object Detection [1] motivates this project. This Kaggle was created using the recent data set announced, the Open Images Dataset v5 [2]. This project proposes to show some strategies to solve the problem, given a deep dive into some deep neural network architectures.

1.2 Problem Statement

1.3 Metrics

2 Analysis

2.1 Data Exploration

2.2 Exploratory Visualization

2.3 Algorithms and Techniques

2.4 Benchmark

3 Methodology

3.1 Data Preprocessing

3.2 Implementation

3.3 Refinement

4 Results

4.1 Model Evaluation and Validation

4.2 Justification

5 Conclusion

5.1 Free-Form Visualization

5.2 Reflection

5.3 Improvement

References

[1] Google Research. Open images 2019 - object detection. `https://www.kaggle.com/c/open-images-2019-object-detection/overview`, jun 2019.

[2] Google AI Blog. Introducing the open images dataset. `https://ai.googleblog.com/2016/09/introducing-open-images-dataset.html`, 2016.