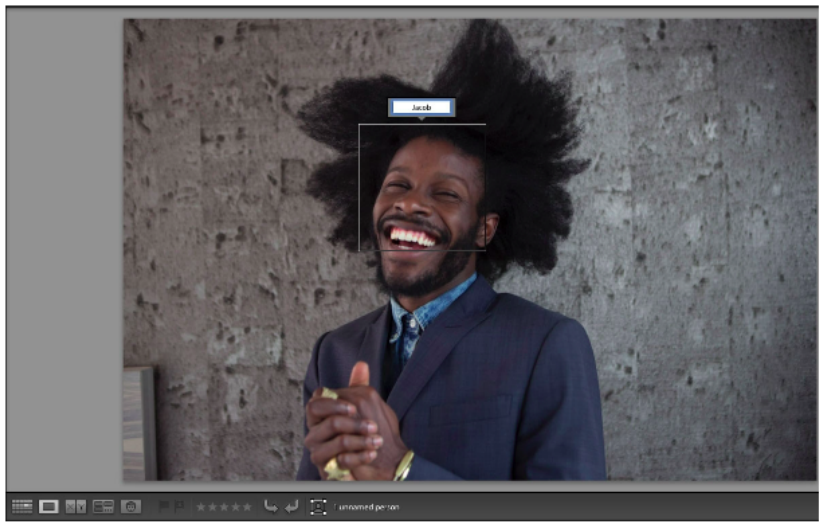
Artificial Intelligence Project

v1.0.0 2023-09-15

1 Introduction



Tag a detected face

Screenshots from iOS Photo app and Adobe Lightroom

1.1 Smart image gallery

We want to create a smart image gallery. Your image galery should have the following features: Automatic detection of persons and possibly animals. Identifying a person and being capable of detecting all occurrences of a specific person accross images, being able to filter by person.

This project is multidisciplinary, you will leverage your knowledge of machine learning, learn new techniques, and also use your knowledge of programming, web development, and ergonomics.

1.2 Features

- A web app that allows users to upload and process image files.
- The app processes the images and detects humans.
- The app detects animals in images.
- The app clusters and identifies humans and animals
- There is the possibility of tagging or adding custom labels to images for better organization.
- It is possible to filter images by humans in them.
- It is possible to filter images by types of animals in them.

1.3 Tools

You can use any tools you want, both for the web and for the machine learning parts. You can use any programming language, any existing dataset you can find online, any pre-trained machine learning model (do not forget to cite your sources).

One component of the project should include a machine learning model that you have trained.

The report should contain the full technical explanation of the different machine learning techniques that you will use. It should follow this structure: Introduction, Materials and methods, Results, Discussion.

2 Evaluation

2.1 Grading

The project should be done in groups of 2 or 3 students. The report, presentation, and sources should be uploaded to claco.

The evaluation is separated into 3 parts:

- how well your app works, its performance on some unseen examples, the machine learning techniques, including report (50%),
- the ergonomics, functionalities and overall look & feel (25%),
- the presentation and questions (25%).

2.2 Presentation

As a **group**, you prepare a 15-minute presentation to be presented on December 20. For the presentation: present your solution, justify your choices, present your results, and make a demonstration of your app (with possible limitations?).

The presentation will be followed by 15 minutes of questions.
