

Device Agnostic Facial Recognition

Progress document.

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1. Background

In this project, we need to create facial recognition technology that will that can be deployed on a chrome browser. I need it to look for faces and compare them against 5 faces to see if there is a match. This software needs to run in real-time.

Apparently that a this project is a computer vision problem. Also we need to write a website for showing the results interactively.

2. Technical problems.

Since we wanna create a facial recognition technology comparing the faces, following problems should be solved:

2.1 Understanding and implementing the useful api. Here we use well-trained [face-api.js](#). Since tensorflow could also be developed by javascript, all source codes should be written in javascript.

2.2 Develop a website for people to use. Everything should be written in javascript. A source website of mine could be found at [this link](#).

2.3 Developing a website server using AWS or IBM cloud for running codes and deploying the facial recognition result.

3. Current Condition

During March 2019 we developed a demo HTML page for everyone to preview at [this link](#). It basically shows how to implement javascript script and utilize build-in function (such as face-api.js). 3 components are given in our GitHub repo:

- a. A general introduction and tutorial of how to utilize the face-api.js. This part of the material could be found [here](#).
- b. An example of html page showing how to implement face-api.js and design the html page. This demo should just be a minimal example and you can find it here. Download the whole repo and open the example in chrome/firefox would be sufficient.
- c. The full tutorial given by official face-api.js website.

4. Possible Future Improvement

There are several stuffs that didn't cover by us until deadline. Maybe future project participates could consider about those topics:

- a. How to use our own dataset(pics) to re-train the model. That means we could personalize the dataset and model for better performance.
- b. Developing other function for website such drawing frame of face.
- c. UX design, structure change of website.

5. Useful Links

- a. Source codes <https://github.com/justadudewhohacks/face-api.js#models-face-detection>
- b. Javascript for website: https://www.w3schools.com/howto/howto_website.asp
- c. Another example: <https://dev.to/programliftoff/create-a-basic-webpage-with-css-and-javascript--104i>
- d. Implementing a website using AWS and WordPress: https://amazonaws-china.com/getting-started/tutorials/launch-a-wordpress-website/?nc1=h_ls
- e. Url address for our GitHub repo: https://github.com/HaoyangHan/DAFR_Project