How to proposal (CS290_Web Development)

Woohyuk Yang

yangwo@oregonstate.edu

Starting "How-To Guide" research project, we need to know what API is. API is an abbreviation of Application Programming Interface. API helps developers to make an application faster providing software components. Software libraries are similar with API when it comes to this feature. API can be used for various software including web-based systems, mobile application, and database system. This research project will address on API based on web environment using JavaScript and JSON mostly.

In my How-To Guide, Computer Vision API from Windows Cognitive Services will be introduced. Microsoft Cognitive Service is like a whole package which can make an application more intelligent. They are cross platform so Cognitive service API can be used in various platforms. As you can see from the name of the API, Microsoft Cognitive Services APIs include APIs in vision, speech, language, knowledge, search, and lab. APIs related to vision includes Computer Vision API, Emotion API, and so on.

Computer Vision API which will be discussed in my How-To Guide research project can analyze an image. This feature returns analyzed result about visual content found in an image in JSON form. It returns description about the data(mainly picture) and tags with confidence(accuracy), image format, image dimensions, and other features. Even though the data should be in specific formats like JPEG, PNG, GIF, BMP, less than 4MB, and greater than 50x50. It works with high accuracy.

In the research project, I will mainly discuss about what API is and How can we use the API; Computer Vision API from Windows Cognitive Services. There are some basic ways to use API generally and some specific ways to deal with some specific APIs. How to obtain a API key will be discussed also. There are few different APIs in Computer Vision API. The usage of Analyze image and Get Thumbnail feature will be discussed. The first API is Analyze image. Analyze image is the feature which return valid visual features like categories, tags, description, faces, imageType, Color, and Adult. For example, Adult feature is interesting and it detects whether the picture(data) is too vulgar to be presented. It can be used to prevent inappropriate images to be posted on the website. The second one is when user sends the image which the user wants to make it in to specific-sized thumbnail. User can change the size of the picture they chose to make a thumbnail.

Talking about what will be needed to do this project, I will use use a third-party library called Bootstrap for UI to make a website quicker and more aesthetic. Bootstrap is one of the most popular HTML. CSS, and JavaScript framework which allows people to easily and fast develop responsive web sites. Using Bootstrap, knowledge on HTML and CSS is necessary because it is the framework which HTML and CSS is used a lot. To use API, JavaScript(also jQuery; JavaScript framework) will be needed. Information which will be sent as a result will be in form of JSON(JavaScript Object Notation), JSON is necessary also. And of course basic knowledge how web server and client works will be needed.