Chapter 9: Visual Recognition and Images

Learning Bluemix & Cognitive

Bob Dill, IBM Distinguished Engineer, CTO Global Technical Sales

Git Repository: https://github.com/rddill-IBM/ZeroToCognitive

(Alchemy) Visual Recognition: three basic services:

(1) Find objects or faces in an image
(2) Create classifiers representing objects to be found in an image
(3) Find an image similar to one you've provided

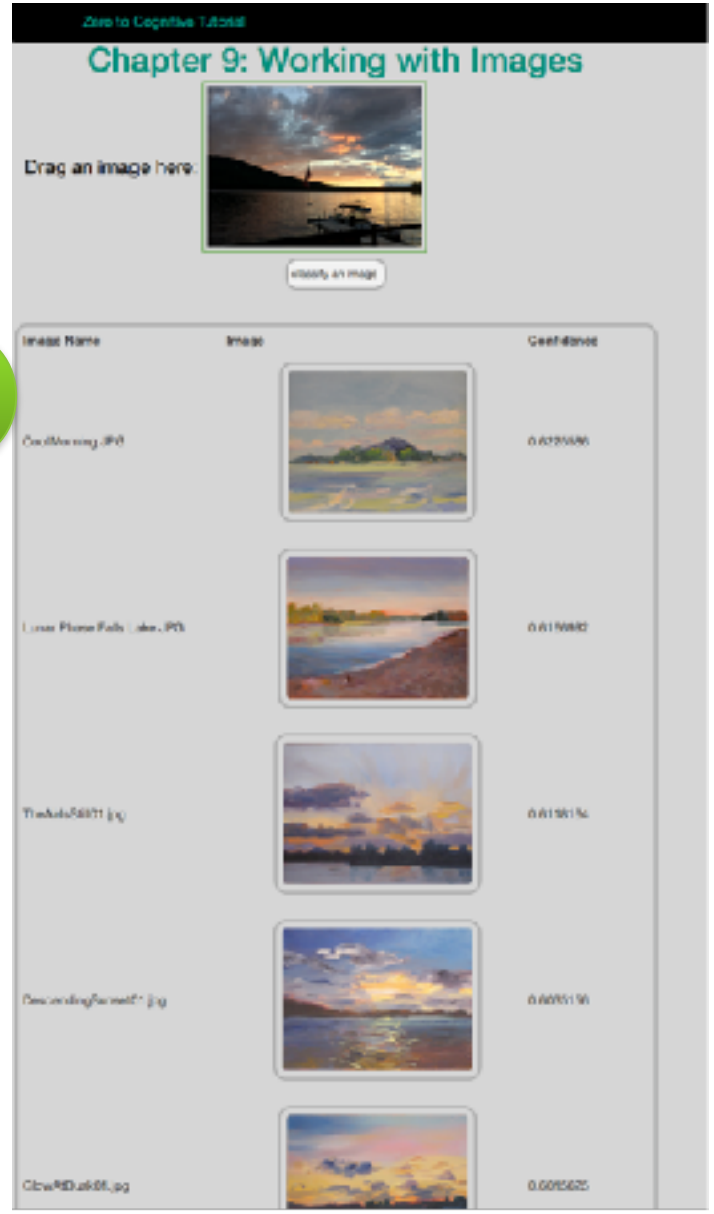
A. Classify an Image	A. Classify an Image based on default or custom classifiers
B. Detect Faces	B. Analyze faces in images and get data about them, such as estimated age, gender, plus names of celebrities. Images must be in .jpeg, or .png format. This functionality is not trainable, and does not support general biometric facial recognition.
C. Classifiers:	C. Train a new multi-faceted classifier on the uploaded image data:
A. Create a classifier	A. A new custom classifier can be trained by several compressed (.zip) files, including files containing positive or negative images (.jpg, or .png). You must supply at least two compressed files, either two positive example files or one positive and one negative example file.
B. Retrieve list of custom classifiers	B. Retrieve a list of user-created classifiers
C. Retrieve classifier details	C. Retrieve information about a specific classifier.
D. Update a classifier	D. Update an existing classifier by adding new classes, or by adding new images to existing classes.You cannot update a custom classifier with a free API Key.r
E. Delete a Classifier	E. Delete a custom classifier with the specified classifier ID
D. Collections	D. **Beta**. Create a new collection, add images to that collection, and then use Similarity Search to search the collection for similar images.
A. Create a collection	A. Create a new collection of images to search. You can create a maximum of 5 collections.
B. List collections	B. List all custom collections.
C. Retrieve Collection Details	C. Retrieve information about a specific collection.
D. Delete a Collection	D. Delete a user created collection.
E. Add images to collection	E. Add images to a collection. Each collection can contain 1000000 images. It takes 1 second to upload 1 image.
F. list images in collection	F. List 100 images in a collection. This returns an arbitrary selection of 100 images.
G. list image details	G. List details about a specific image in a collection.
H. delete an image	H. Delete an image from a collection.
I. add or update metadata	I. Add metadata to a specific image in a collection. Use metadata for your own reference to identify images.
J. list metadata	J. View the metadata for a specific image in a collection.
K. delete metadata	K. Delete all metadata associated with an image.
L. find similar images	L. Upload an image to find similar images in your custom collection.

What's the story for this tutorial?

- Create a series of classifiers.
  - In the demo, we'll create a series of classifiers based on type of painting. The classification categories are (arbitrarily)
    - abstract, beach, buildings, collage, forest, garden, still-life, vista, water
  - Create a page which accepts a dropped image, uploads it for classification and returns the classification results
- Optionally
  - Create a series of collections based on the same classification taxonomy
  - Select a collection based on the classification result
  - Find a similar painting in the targeted collection
  - display the found painting with confidence results.

What are we building?

1. Drag and drop image onto web page
2. Check if ok to upload
3. Classify the image
4. Find similar images



The Plan: 30 minute Chapters with an hour or two of practice

1. The Story, Architecture for this app	
2. Setting up Bluemix	
3. Building your first Watson App	(Watson Speech to Text)
4. Getting Watson to talk back	(Watson Text to Speech)
5. Understanding Classifiers	(Watson NLC)
6. Creating a custom dialog with Watson	(custom Q&A, session management)
7. Authentication	(puts C2 thru 6 together)
8. Alchemy News	(Watson Alchemy)
9. Visual Recognition and Images	(Watson Visual Recognition)
10.Watson Conversations	(Watson Conversations)
11.Rank & Retrieve	(Watson Alchemy + Rank & Retrieve)

Chapter 10: Watson Conversations

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