Machine Learning approaches for Image Recognition

Option 1 - scikit-learn: machine learning in Python

http://scikit-learn.org

scikit-learn Machine Learning in Python. Simple and efficient tools for data mining and data analysis

Accessible to everybody, and reusable in various contexts Built on NumPy, SciPy, and matplotlib

Open source, commercially usable - BSD license

Tutorials that address Image Recognition and Diabetes Data Sets , Predictions:

http://scikit-learn.org/stable/tutorial/index.html

http://scikit-learn.org/stable/auto_examples/index.html#examples-based-on-real-world-datasets

Github Source Code for all libraries and real world examples:

https://github.com/scikit-learn/scikit-learn

Option 2 - TensorFlow (Google's Open Source Machine Learning Library)

In November 2015, Google announced and open sourced TensorFlow, its latest and greatest machine learning library. This is a big deal for three reasons:

- Machine Learning expertise: Google is a dominant force in machine learning. Its prominence in search owes a lot to the strides it achieved in machine learning.
- Scalability: the announcement noted that TensorFlow was initially designed for internal use and that it's already in production for some live product features.
- Ability to run on Mobile.

Example Scenarios of Image Recognition (Mobile App)

The app glances out through your camera and tries to identify the objects it sees. Sometimes it does a good job, other times it can't quite pin down the object, and at times it leads to thought provoking guesses.
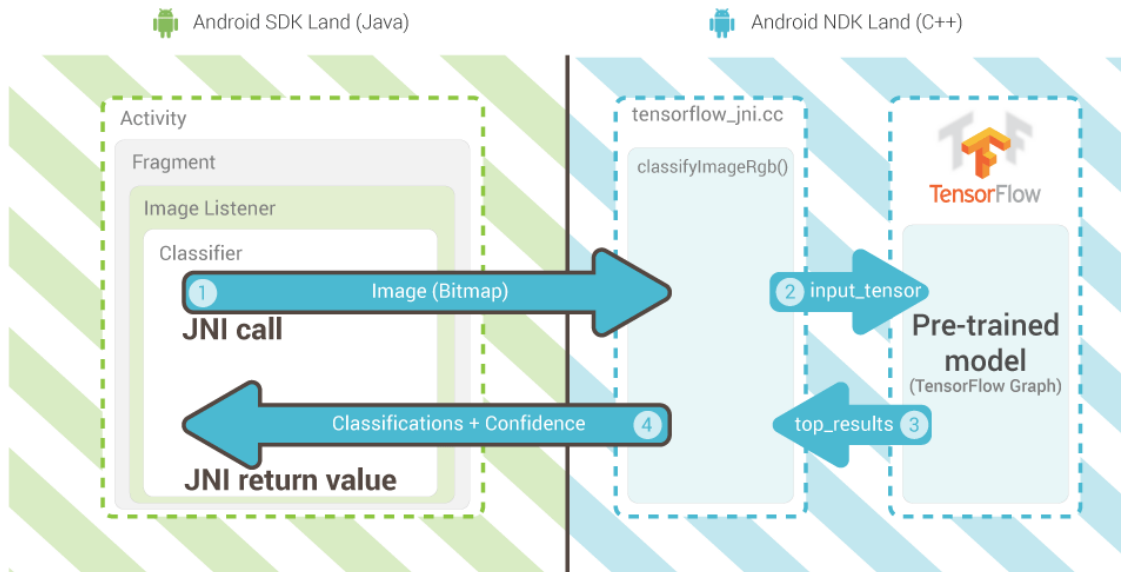
vending machine: 0.973

coffee mug: 0.675
cup: 0.147
espresso: 0.117

App Structure Walkthrough

Image

App Code
(Activity, fragment, or other)

TensorFlow

Pre-trained model

Classifications + Confidence Scores

ballpoint: 0.325
fountain pen: 0.31

Tensorflow Android Demo

https://github.com/tensorflow/tensorflow/tree/master/tensorflow/examples/android