Visual Recognition

VisRec JSR

Goal

To simplify and standardize Java APIs for detecting, recognizing and annotating images.

Why is This Important for Java?

Machine Learning is a huge industry trend

Wide business implications across devices

Visual Recognition (VisRec) is an important subset of ML

Java needs to play a major role in both VisRec and ML

What do Java Developers Get?

A standard, easy-to-use and flexible set of high-level VisRec APIs

Well-defined APIs essential for robust system architecture

Ease of development and portability

High-level abstractions to protect developers from lower-level changes
   (with hooks allowing lower-level access)

Building *custom* Image Classifiers (not just using pre-trained ones)

Use cases

Manufacturing: Ensure products positioned correctly on assembly lines

Visual Auditing: Compliance or deterioration in a fleet of trucks, planes, train custom classifiers to understand what defects look like

Social Listening: Use product/logo images for social media sentiment analysis

Retail: Use clothing photos to find them in stock or on sale then use a travel image to find retail suggestions in that area
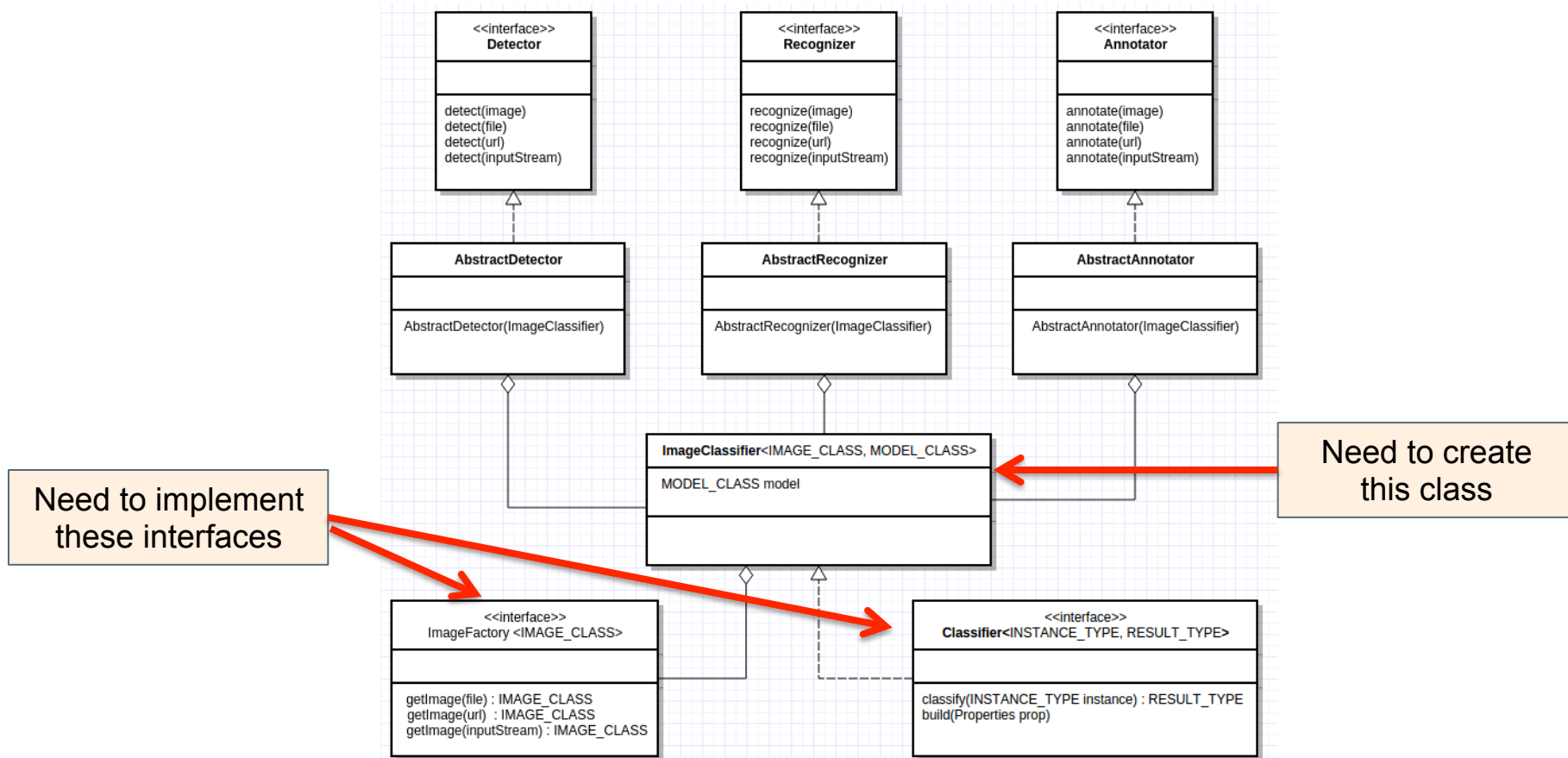
Example usage

Building an Image Classifier

```java
ImageClassifier imageClassifier = new DeepNettsImageClassifier();
Properties prop = new Properties();
prop.setProperty("imagesPath", "/home/user/imagesDir");
prop.setProperty("imageWidth", "100");
prop.setProperty("imageHeight", "100");
```

Using the Image Classifier

```java
List<Result> results = imageClassifier.classify(new File("00060.png"));
        ...
for(Result result : results) {
     System.out.println(result);
}
```

VisRec API Class Diagram

Expert Group for VisRec JSR

Zoran Severac – DeepNetts
> Researcher at AI Lab, Dept for Software Eng, Univ of Belgrade, Serbia
> Founder of Java Neural Network Open Source Project
> Java Champion, NetBeans Dream Team

Sandhya Kapoor – IBM
> Senior Technologist - IBM Cognitive Computing
> AI and Deep Learning

Frank Greco - Crossroads Technologies
> Java Champion, NYJavaSIG Chairman
> Enterprise and Cloud Architect

Sponsors and Advisors

IBM

Ed Burns - Oracle

Guillaume LaForge - Google

Jim Weaver - Pivotal

Participate!

Github Repo

https://github.com/sevarac/VisualRecognitionApi

Wiki

https://github.com/sevarac/VisualRecognitionApi/wiki

Mailing list

https://groups.google.com/forum/#!forum/visrec-jsr