Quickstart Guide

**Note 1 :**

* Appendix B lists python modules required to run the tool.
* The GUI is connected to the bag dimension model. The classifier model is currently a standalone script that will be wrapped into a class for connections to the GUI. Section 1 guides the reader through running the GUI. Section 2 guides the user through running the classifier model.
* Bag length calculations are still in work.

**Section 1: Running the GUI and dimension model**

Step 1: Launch the GUI, python bagPakdGui.py. The status bar at the bottom provided helpful directions

Step 2: Navigate to the bagPhotoSets folder that has been provided as example images. Click Select Folder

Step 3: Expand any set and click on all 4 images. This brings up a preview of the images. Click the rotate images button to adjust as necessary

Step 4: Enter the camera setup data values (In the final program, this data comes from the android app). Example values are provided below:

deltaImageDist: 0.3048

camFocalLength: 0.00467

camVerticalPixelCount: 4048.0

camHorizontalPixelCount: 3036.0

camPixelSize: 1.55e-06

Step 5: If everything that is required was entered, the calculate button turns green. Click the button for results.

**Section 2: Running the Classifier**

# Code overview

# Source: https://www.pyimagesearch.com/2018/04/16/keras-and-convolutional-neural-networks-cnns/

# Code is a slightly modified version of the above

bagclassifier.py - The Keras model

train.py - For pre-processing images and training the model

classify.py - References the model to make predictions for an image

# Install conda for your OS

https://conda.io/docs/user-guide/install/index.html

# Set up the environment

I included a spec file called spec-file.txt what can be used to create the

exact environment I used to build and run the classifier

https://conda.io/docs/user-guide/tasks/manage-environments.html#building-identical-conda-environments

conda create --name cs501 --file spec-file.txt

Then you need to use pip to install the 'imutils' package

pip install imutils

# Run the classifier

Navigate to the bag\_classifier directory

python3 classify.py -m bagclassifier.model -l labels.bin -i erik\_carryon\_front.jpg