

Conveyor Belt Dataset

For the first part of this project, NVIDIA's DIGITS was used to train a model on pictures of candy boxes, bottles, and nothing (empty conveyor belt) for the purpose of realtime sorting. The dataset was imported as 256x256 color images. The model was trained with Google LeNet for 5 epochs. Evaluate was then run on the model. The model came back with a 75.41% accuracy and an inference speed between 5 and 6 ms which met the requirements of the project which was a 75% accuracy at 10 ms inference speed. Down below is a snapshot of the evaluation:

```
11 NOTE 3: You can keep you workspace from timing out by piping the digits command into a keep alive so
12
+ Terminal 1      X Terminal 2      X Terminal 3      X
name=data, bindingIndex=0, buffers.size()=2
name=softmax, bindingIndex=1, buffers.size()=2
Average over 10 runs is 5.57775 ms.
Average over 10 runs is 5.56565 ms.
Average over 10 runs is 5.27888 ms.
Average over 10 runs is 5.02682 ms.
Average over 10 runs is 5.02615 ms.

Calculating model accuracy...

  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
   Total      100 12348   100    2316     213      39 0:00:59 0:00:57 0:00:02 2588

Your model accuracy is 75.4098360656 %
root@a91f2848e5c5:/home/workspace#
```

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The trained model for the supplied data is included in this submission.