This code runs a neural network that classifies Oddy Test coupons, especially from the Metropolitan Museum of Art's method, as Permanent or Temporary or Unsuitable, based on photographic images. It returns a spreadsheet showing what each coupon is, from left to right, as they are arranged in the image.

Instructions:

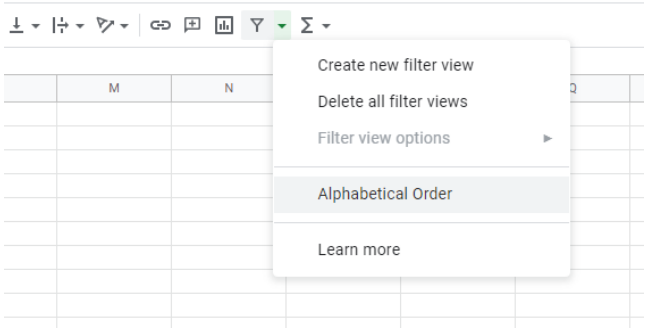
1. Download the 'Visualizing Box Labels' file from GitHub, and place it into Google Drive. Right click the "new" button in the top left, then "more", and then "Connect more apps". Search for google colaboratory, and install it. Now open the file in Google Drive.
2. Upload images by hovering your cursor to the left of 'from google.colab' and clicking on the play button.
    a. Select "Choose Files" and select your images. You may choose multiple images (for example, using Ctrl+A to select everything in a folder) but not folders themselves.
    b. Note: The supported formats are eps, jpeg, jpg, pdf, pgf, png, ps, raw, rgba, svg, svgz, tif, tiff.
3. Collapse (by clicking the arrow to the left of the code) and run the "Met Oddy Test NN" code, again by clicking the play button. Wait a few minutes for the code to run. No input is required for this, and you can go into a different tab or application while it runs. The return of the play button indicates that the code is finished running.
4. After that is finished, run the "Get Model Output" code. Once it completes, it will download a zip file to your computer, which may take some time. The file contains processed images with bounding boxes around each coupon as well as the AI generated coupon rating labels and confidence level. The labels are color coded based on the coupon type and the result (P, T, or U.) Remember to extract the zip file by right clicking on it.
5. The folder will also contain a file named summary.csv. Open it, select all cells (Ctrl+A), and copy them (Ctrl+C). Make a copy (by right clicking and selecting make a copy) of the spreadsheet named "Data Processing Spreadsheet", also contained in the main folder in Google Drive. Once it is, or if it already is in your drive, click on the A1 box (the top left corner). Press Ctrl+V to paste the data (optionally use the clipboard icon and select paste values only).

Example Outputs:

FileName	Cu1	Cu2	Ag1	Ag2	Pb1	Pb2	Result	Mismatch?
1502_Si	Cu-P	Cu-P	Ag-P	Ag-P	Pb-T	Pb-T	T	No
1346_Si	Cu-U	Cu-U	Ag-P	Ag-P	Pb-U	Pb-U	U	No
1372_Si	Cu-T	Cu-T	Ag-T	Ag-T	Pb-U	Pb-U	U	No
1383_Si	Cu-T	Cu-T	Ag-P	Ag-P	Pb-T	Pb-T	T	No
1316_GA	Cu-U	Cu-U	Ag-P	Ag-P	Pb-U	Pb-U	U	No
1465_Si	Cu-P	Cu-P	Ag-P	Ag-P	Pb-P	Pb-P	P	No
1503_Si	Cu-U	Cu-U	Ag-P	Ag-P	Pb-U	Pb-U	U	No
1323_GA	Cu-T	Cu-T	Ag-P	Ag-P	Pb-P	Pb-P	T	No
1408_Si	Cu-P	Cu-P	Ag-P	Ag-P	Pb-P	Pb-P	P	No
1341_GA	Cu-P	Cu-P	Ag-P	Ag-P	Pb-P	Pb-P	P	No
1466_Si	Cu-P	Cu-P	Ag-P	Ag-P	Pb-P	Pb-P	P	No
1457_Si	Cu-P	Cu-P	Ag-P	Ag-P	Pb-T	Pb-T	T	No
1337_GA	Cu-T	Cu-T	Ag-P	Ag-P	Pb-T	Pb-T	T	No

Notes:

1. The spreadsheet will automatically color code the data, show the result from each test, and show you if there are any instances where two coupons of the same metal give a different result.
2. You can put the spreadsheet in alphabetical order by using the drop down next to the filter button and then “alphabetical order.” You can also increase the end of the range from I16 to I1000 or more to fit all of your data. (Screenshot attached)



3. To run the code again with different images, skip step #3, and paste the data in the spreadsheet below what you already have. If you don’t want it to output the results from previous inputs, you can uncollapse the code using the small triangle to the left of ‘Met Oddy Test CNN’, and run “Process Inputs”

Samples:
15 Test Images
Images from the met (1540 Train, 448 Validation, 220 Test. 2208 Total.)
Combined Materials Testing Results - Wiki (conservation-wiki.com)