Python -
OpenCV for Computer Vision

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Monkeys Are Not Real…

Setup

- python3 -m pip install opencv-python
- python3 -m pip install pillow
  - Allows you to get meta data from image files
- https://opencv.org/releases/
  - Download “Sources”
  - Copy “data” folder to your root directory

Filters

- XML documents used for finding objects
- You can create custom filters
- LICENSING!!!

Webcam Video

- https://docs.opencv.org/4.x/db/d28/tutorial_cascade_classifier.html
- Note - Video Camera Default
- Example = webcam.py

Text and Shapes on Video

- cv.putText(frame, ‘words’, x y coordinates, font, text size, color, font thickness)
- frame = cv.ellipse(frame, center, (w//2, h//2), 0, 0, 360, (255, 0, 255), 4)

Web Cam X/Y Coordinates

- Example = webcam-xy.py

Track Largest Object

- Lambda Functions
- Example = webcam-best.py

Webcam Trigger Event

- Using X, Y, H, or W you can trigger events with Python
- Example = webcam-trigger.py
  - Examples tells user to move their head to center it on the screen

Static Images

- Example = picture.py

OpenCV with HTML and CSS

- Example = picture-tag.py
  - Creates a web page with embedded images. Images with a face are bordered with green, and without with red

CSS Bounding Boxes with OpenCV

- Use CSS DIV's with borders to create bounding boxes on images.
- Example = bounding-box.py

Training OpenCV

- Need Windows
- Instructions are convoluted. We will create a simple process later.

Final Thoughts…

- Computers do not “see”
- They process images and based on numbers they assign values…
- YOU ARE THE HUMAN!
- ACT LIKE ONE!