CSE 4310: Introduction to Computer Vision
Summer 2023

Homework #5: Puzzle Game Screen Scraping (OPTIONAL)

In this assignment, you will write a simple screen scraper for the classic arcade game "Super Puzzle Fighter II Turbo". A single input file (screen_scrape.mp4) will be provided in the files section of MS Teams. Your program only needs to work with that specific video file in development and testing.

Instructions:

1. The game features vertically falling "gems" (like Tetris blocks), circular pieces, and rectangular pieces with numerical countdown indicators. You only need to locate colored gems, as shown in the image below:

2. Locate all the colored gems in each video frame, placing a colored rectangle around each gem matching its color (red, green, yellow, blue). Example output is shown below:

3. Your program should load the video file and immediately start searching for gems. Do not attempt to draw rectangles around shapes other than the square green, yellow, red, or blue gems (i.e., do not draw anything around the circular pieces or the countdown boxes)

4. You may use any detection approach that you wish.

5. Your program must compile and run on the standard class VM image as each of the previous examples.

Points will be assigned as follows:

1. Program opens video and plays frames back sequentially – 50 points.
2. Program detects colored gems successfully – 50 points (grader discretion)

Note: This assignment is optional and will replace a single lower grade for the semester.