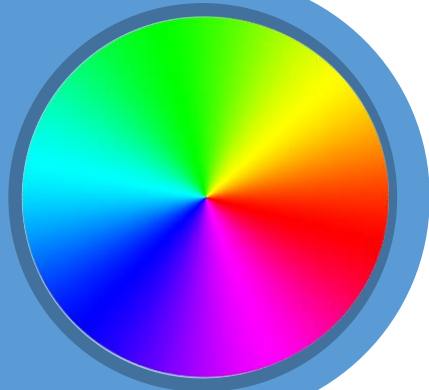


人臉辨識追蹤

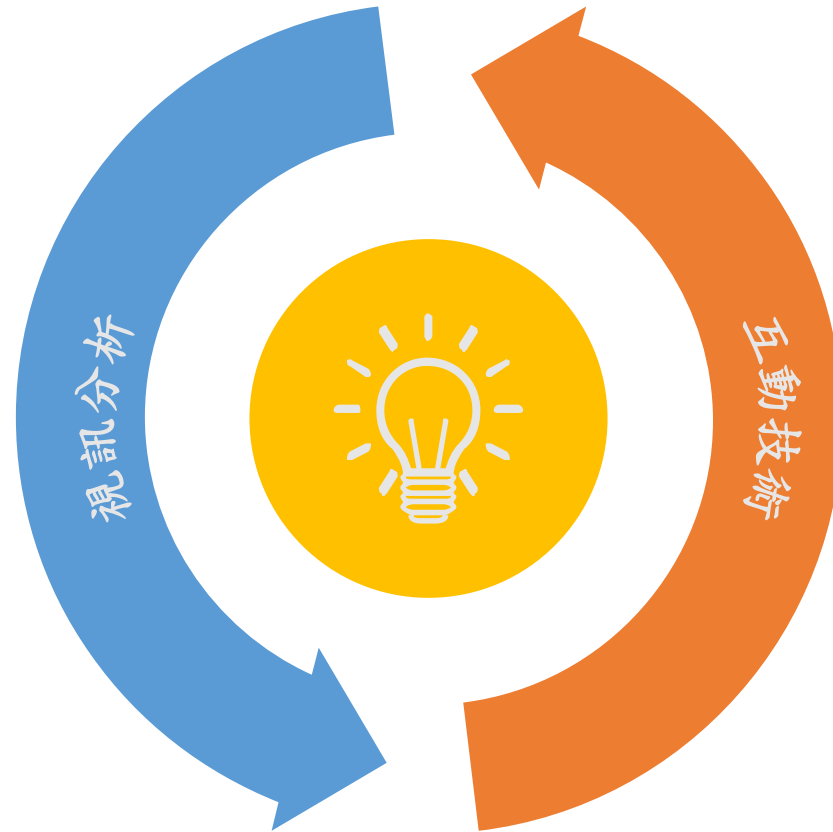


Content

Object detecting

Object tracking

Dlib module



Subway surfer

Pygame module

Game UI and notice

Subway surfer



A yellow arrow pointing to the right, containing the text "Object detecting" in a bold, black, serif font.

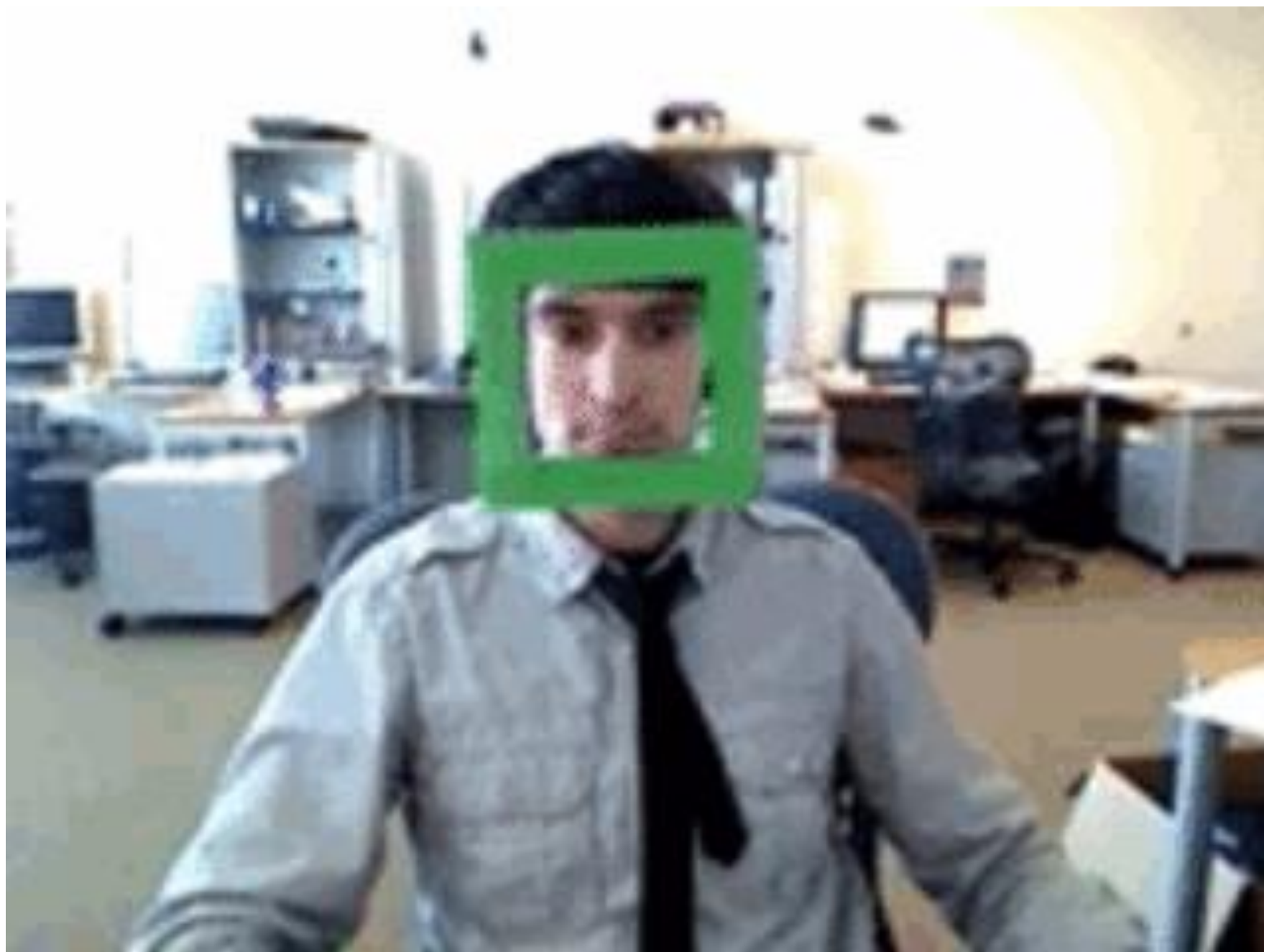
Object detecting

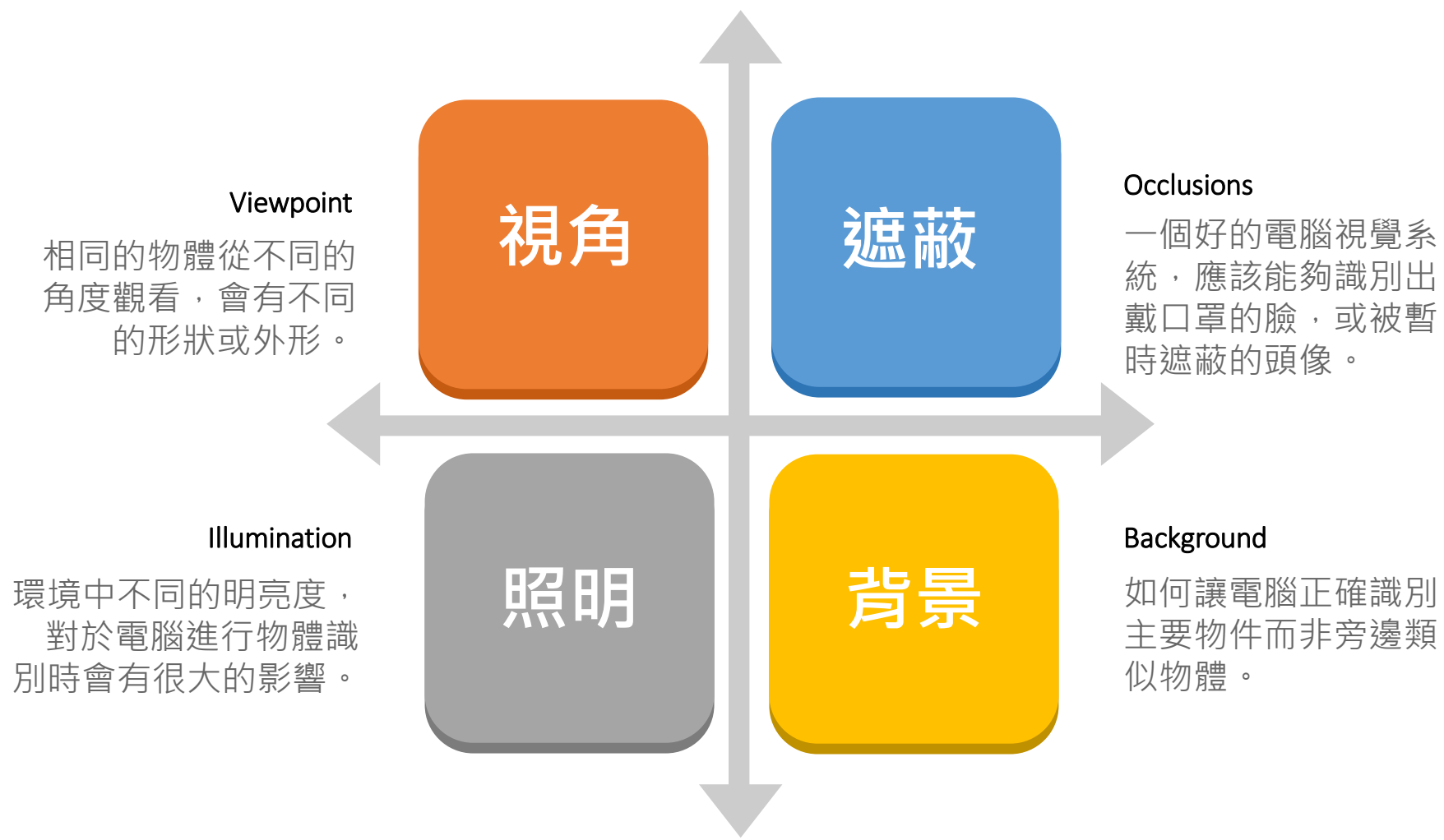
Drawbacks

- Detecting might be slower and inefficient
- If the detected person is turning head slightly, the Haar cascade might not detect the face anymore
- Unsteady

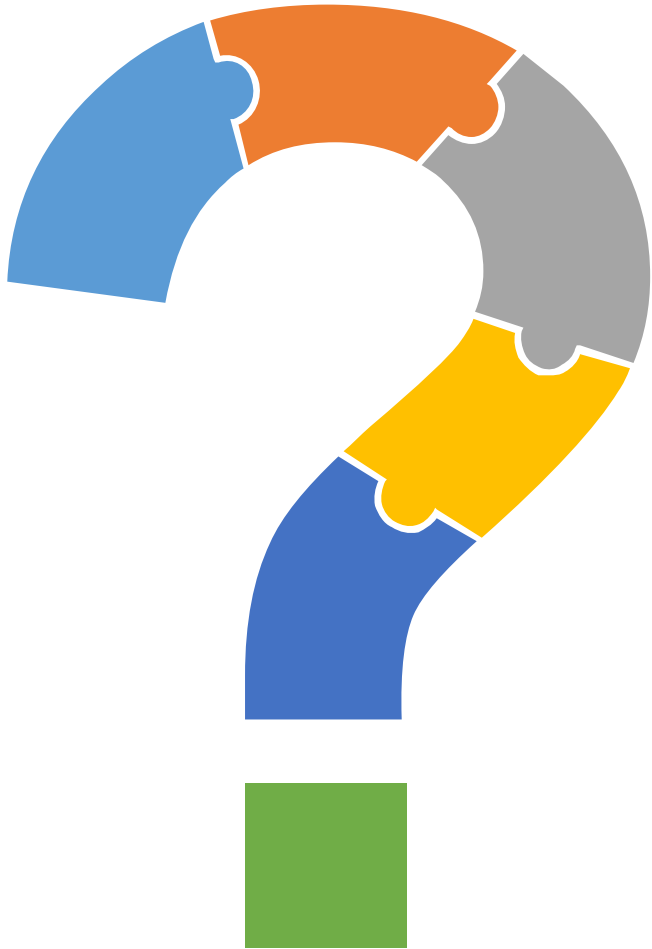
A yellow arrow pointing to the right, with the text "Object tracking" written inside it in a bold, black, serif font.

Object tracking





Detecting vs Tracking



Tracking is faster than Detection

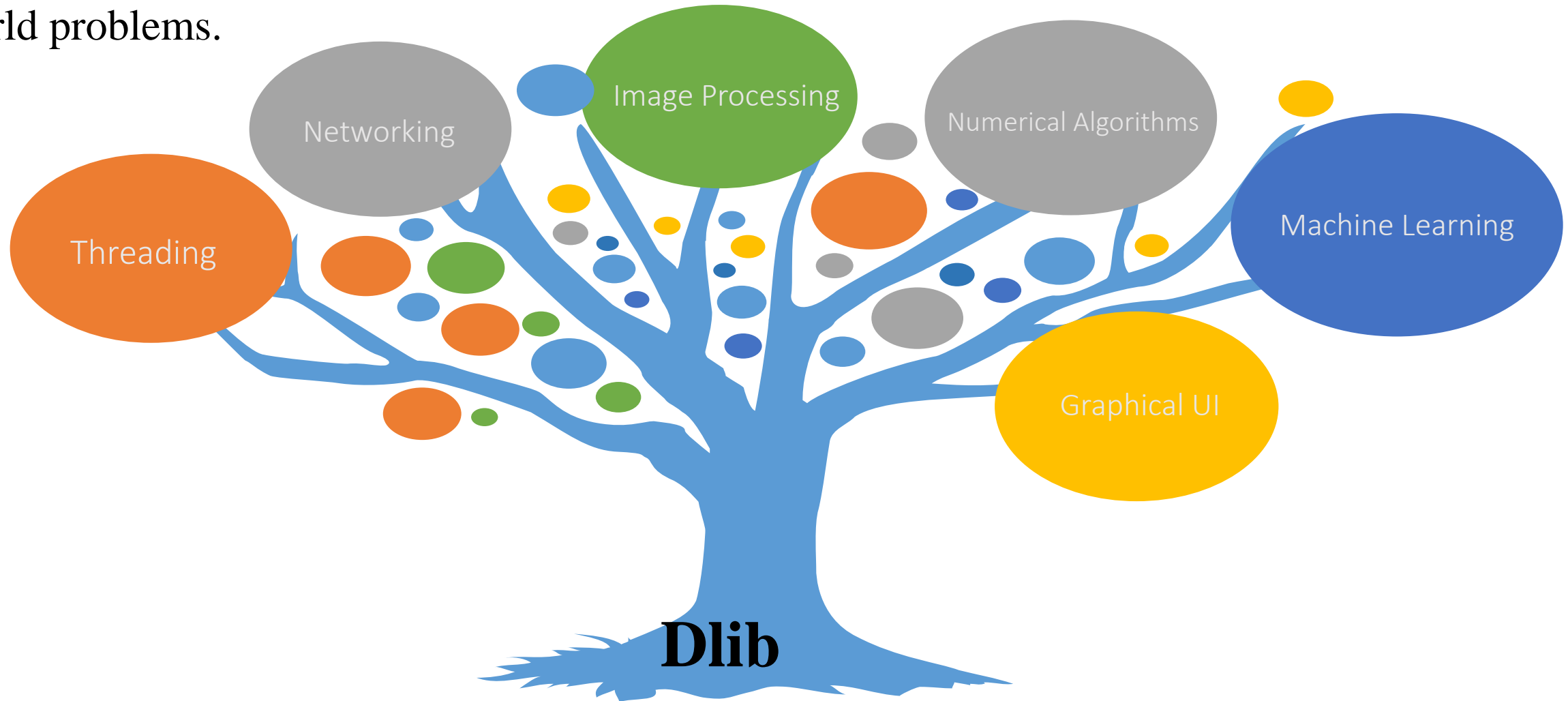
Tracking can help when detection fails

How to make it happen?



Dlib module

Dlib is a modern C++ toolkit containing machine learning algorithms and tools for creating complex software in C++ to solve real world problems.



Using `dlib.correlation_tracker()` to create a tracker

Pseudocode

If tracker is not tracking:

....create one and get the max area

else (tracker is on):

....update the tracker

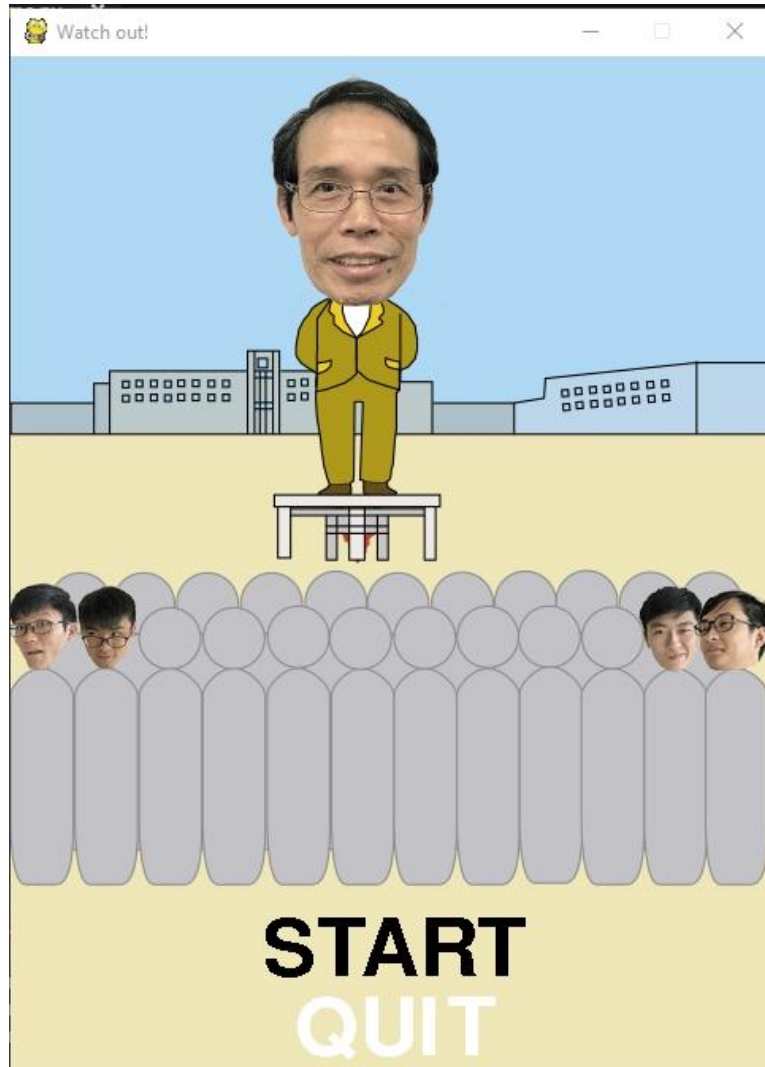
....If the quality of update is good:

.....output the tracker position

A yellow arrow pointing to the right, containing the text "Pygame module" in a bold, black, serif font.

Pygame module

Game UI and notice





Let's play