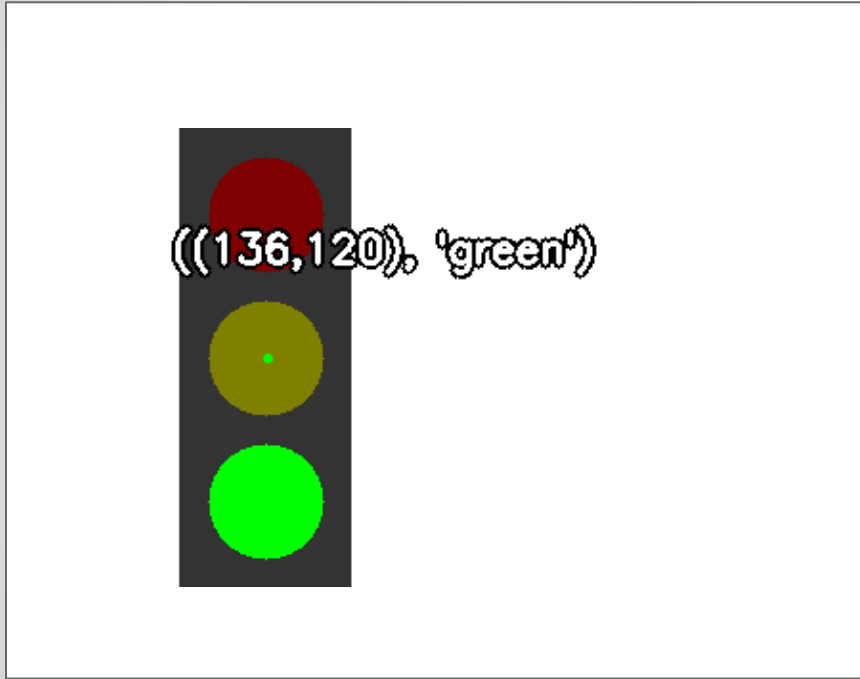# Computer Vision
Fall 2017
Problem Set #2

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Traffic Light Detection

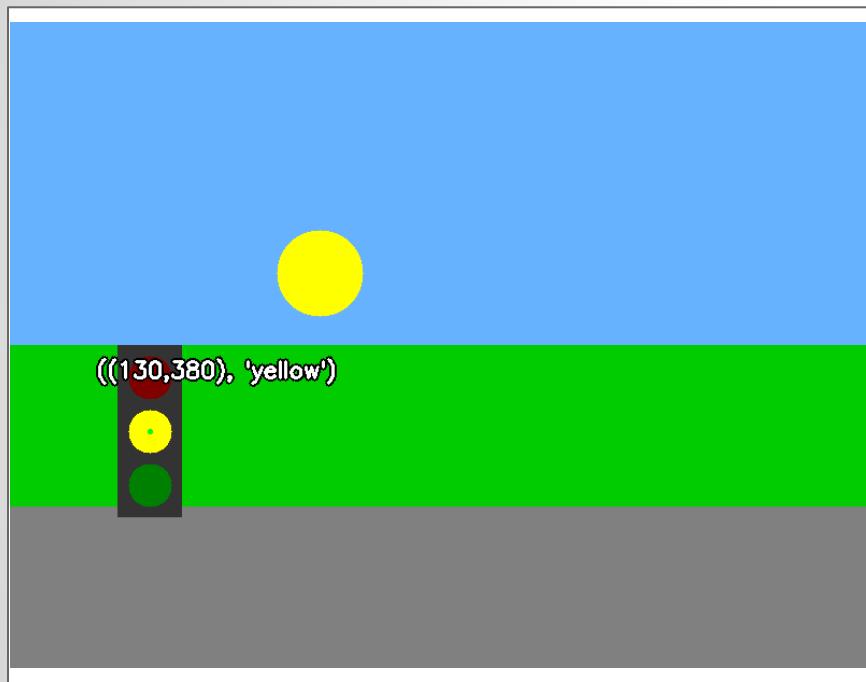((136,120), 'green')

ps2-1-a-1.png

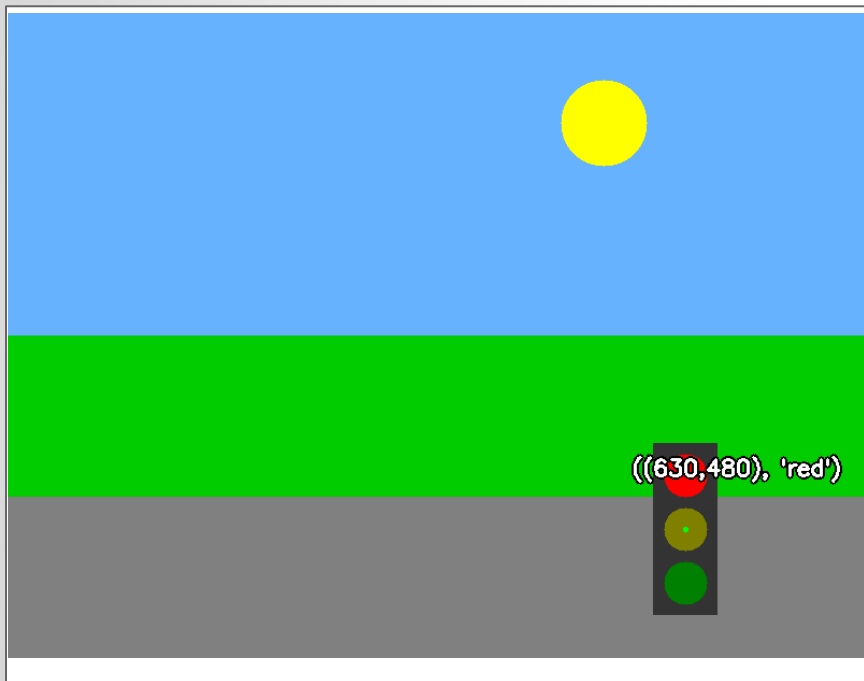# Traffic Light Detection

((438,250),'green')

ps2-1-a-2.png

Traffic Light Detection

((130,380,'yellow')

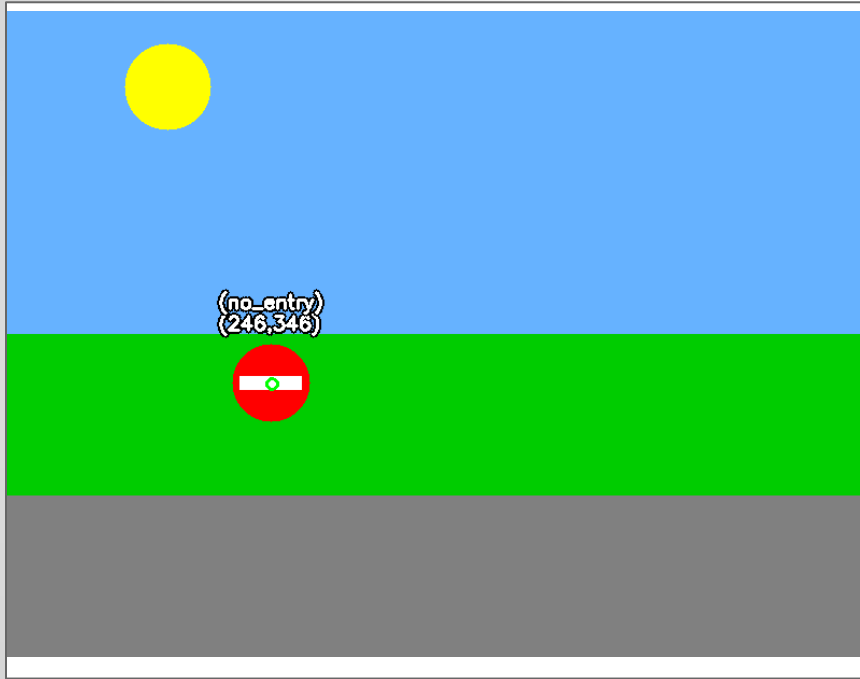**ps2-1-a-3.png**

Traffic Light Detection

((630,480),'red')
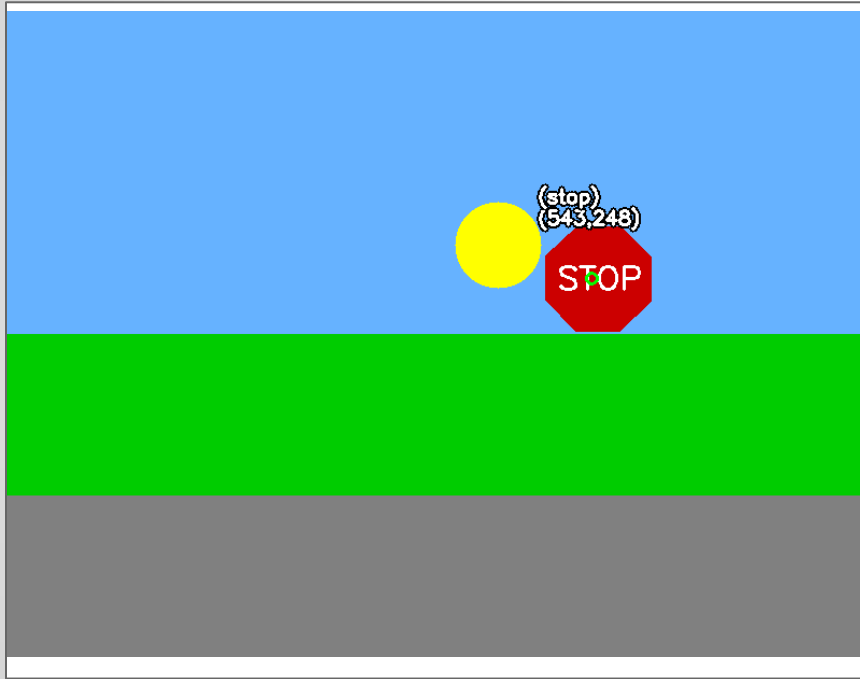
((630,480), 'red')

ps2-1-a-4.png

Traffic Sign Detection - Do not enter

(246,345)

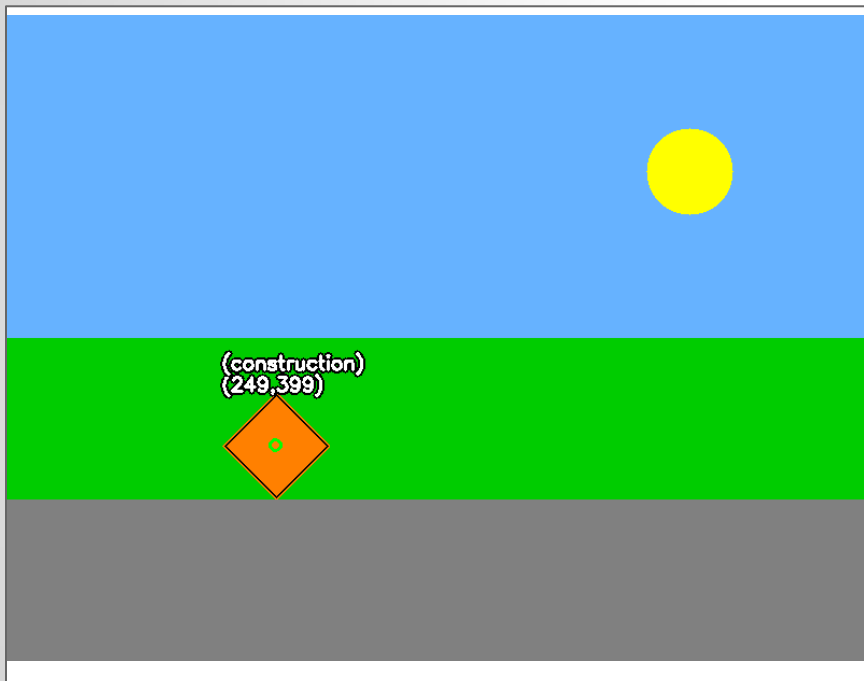(no_entry)
(246,346)

ps2-2-a-1.png

Traffic Sign Detection - Stop

(543,248)

ps2-2-a-2.png

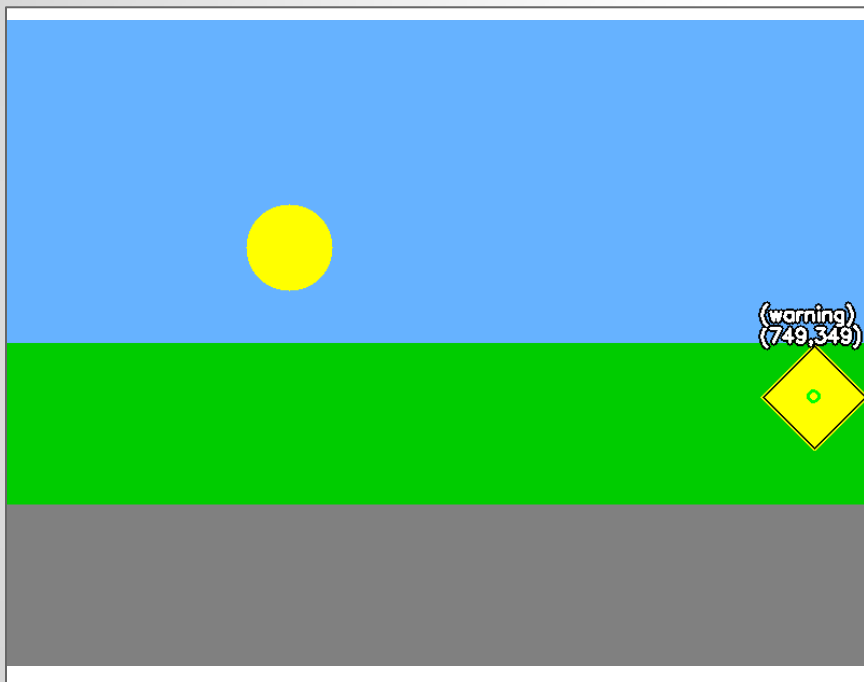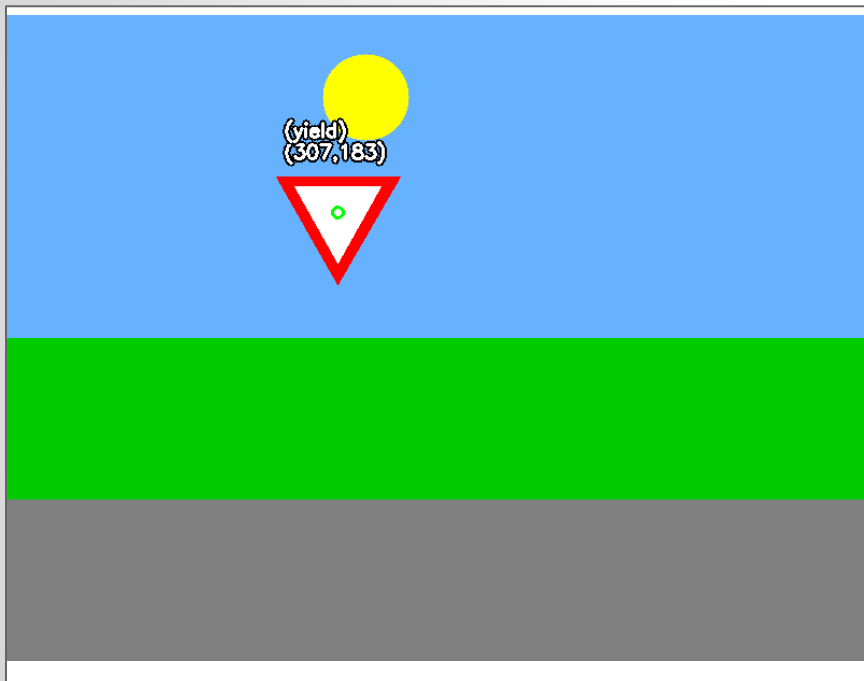# Traffic Sign Detection - Construction

(249,399)

(construction)
(249,399)

ps2-2-a-3.png

Traffic Sign Detection - Warning
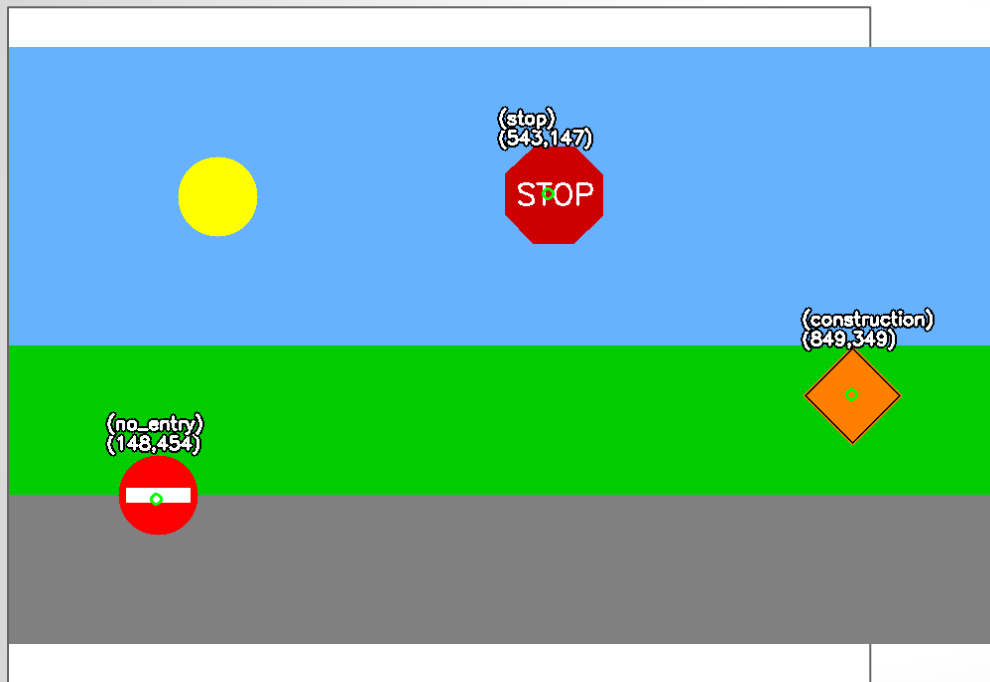

(749,349)

ps2-2-a-4.png

Traffic Sign Detection - Yield

(307,183)

(yield)
(307,183)
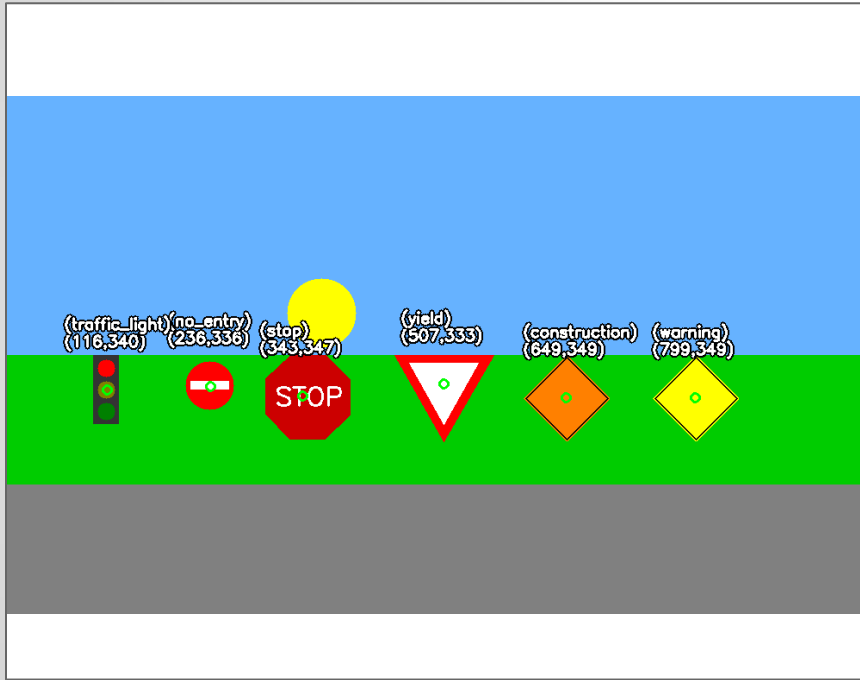
ps2-2-a-5.png

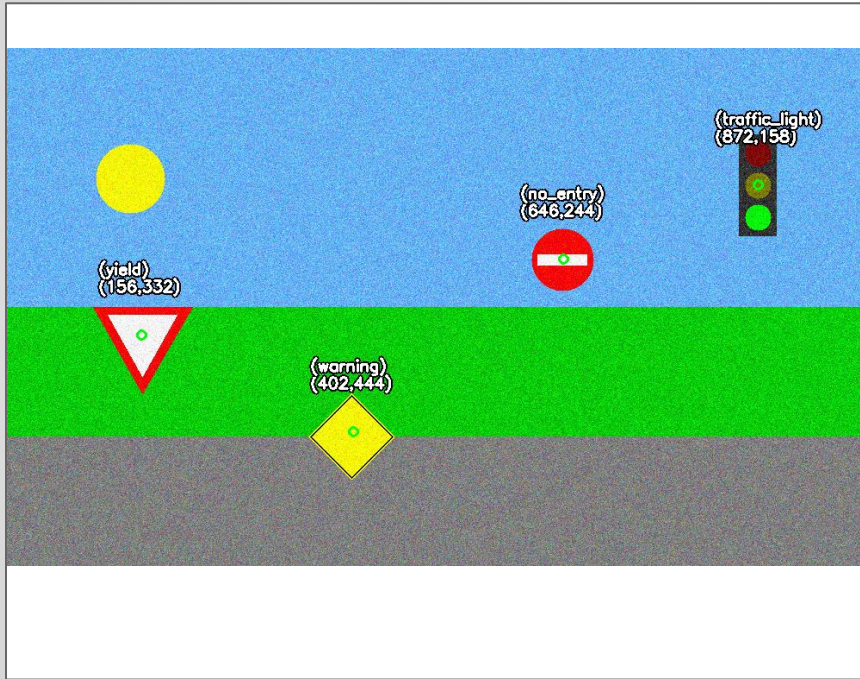# Multiple sign detection

(543,147) – stop
(148,454) – no_entry
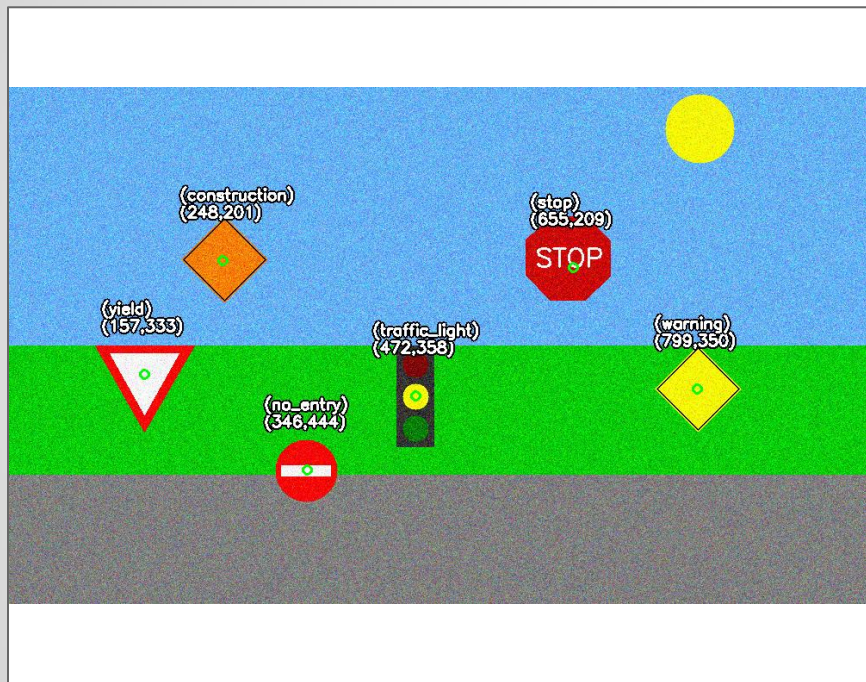(849,349) – construction

ps2-3-a-1.png

Multiple sign detection

(116,340) – traffic_light
(236,336) – no_entry
(343,347) – stop
(507,333) – yield
(649,349) – construction
(799,349) – warning

ps2-3-a-2.png

Multiple sign detection with noise

(156,332) – yield
(402,444) – warning
(646,244) – no_entry
(872,158) – traffic_light

ps2-4-a-1.png

Multiple sign detection with noise

(157,333) – yield
(248,201) – construction
(346,444) – no_entry
(472,358) – traffic_light
(655,209) – stop
(799,350) – warning

ps2-4-a-2.png

Challenge Problem

Input image

Output image

(600,340) – construction

Challenge Problem

To implement real world detection, the size variance must be taken into account, as well as differences in geometry, color variation and skew of the signs.