Technical Exercise – Data Scientist position at Smiths Digital Forge

Attached is a set of 10ish images from the viewpoint of a camera-carrying model car driving on a track marked with yellow tape. The exercise is concerned with finding and determining the shape of these yellow markers.

1) Briefly discuss various algorithmic approaches to detecting these yellow markers, including the amount of data that would be needed to make such algorithm work.
2) Implement one algorithm that detects the markers
3) Implement a tool that annotates the images so as to show the result of the algorithm
4) Discuss methods to score the performance of the algorithm (in terms of correctly determining position of markers)
5) OPTIONAL: implement the scoring mechanism
6) Discuss the compute performance aspect of the selected algorithm; what could be done to speed it up; how does it compare to other algorithm options listed in 1)

Deliverables: Source code & annotated images, & for the optional 5), the code and visual output of the scoring.