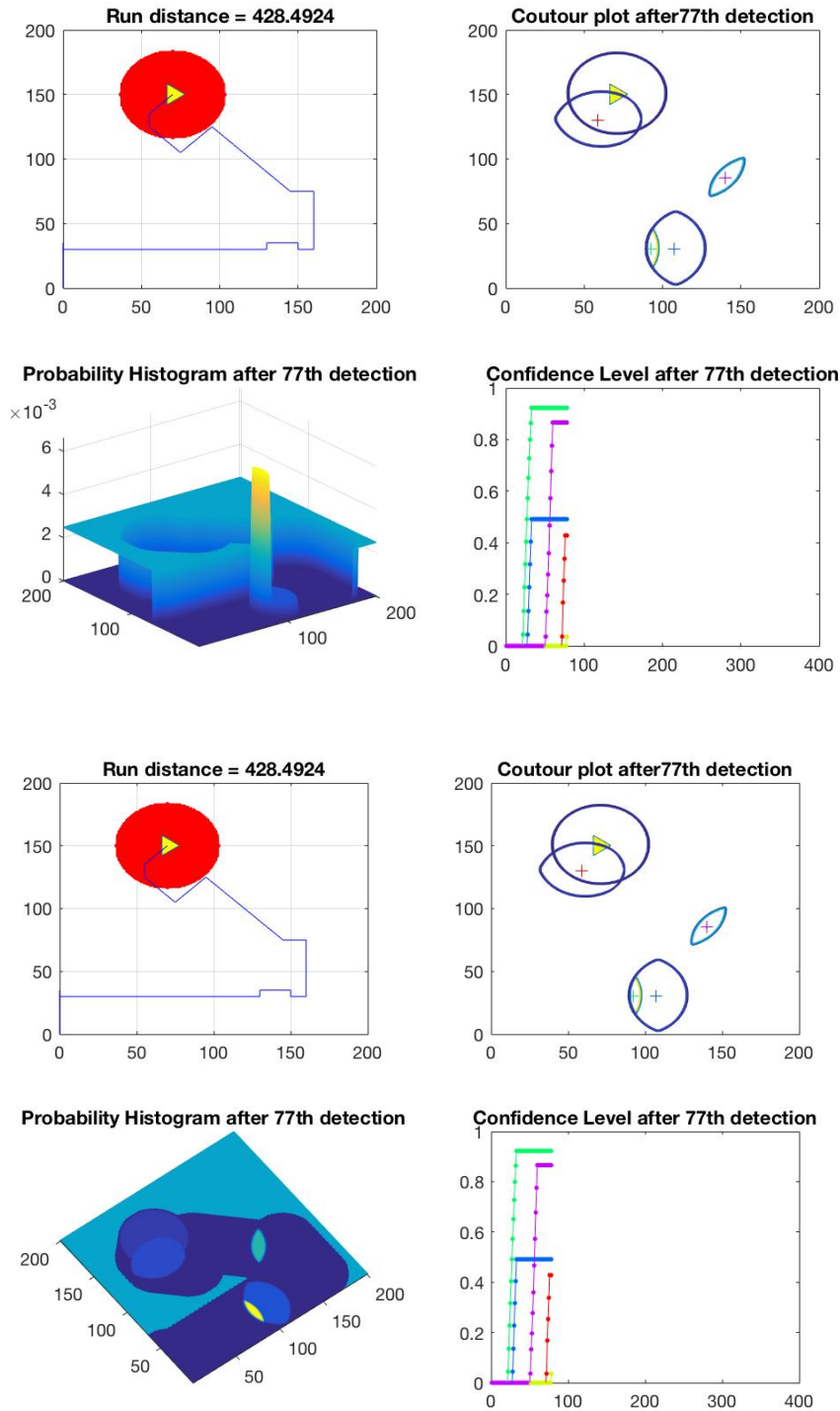


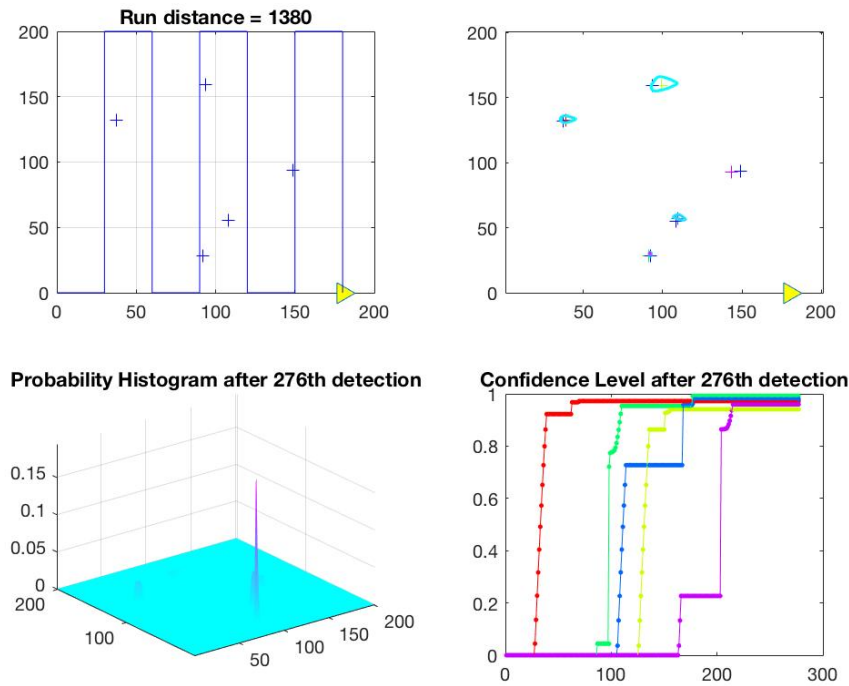
Work report

Improved code based on your suggestion.

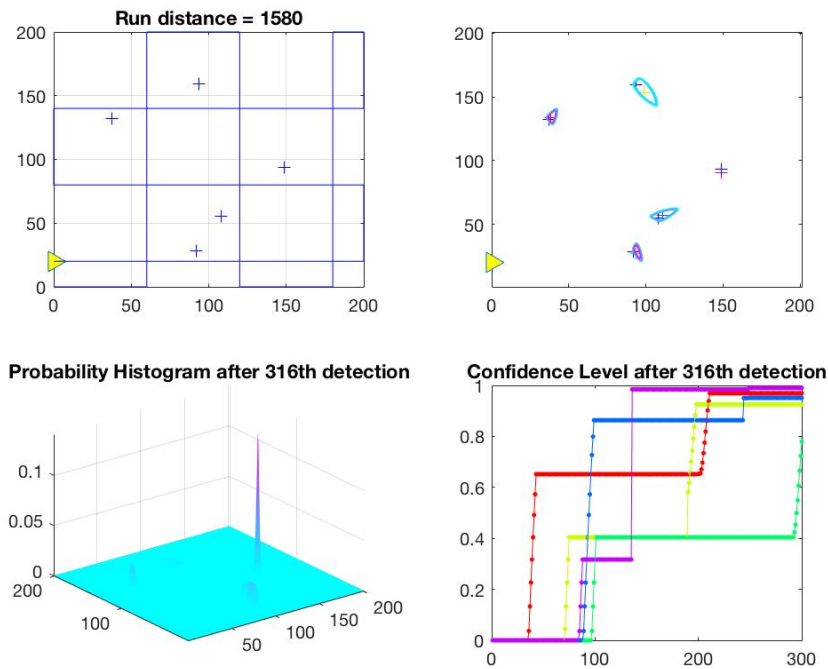
Sweep off figures:



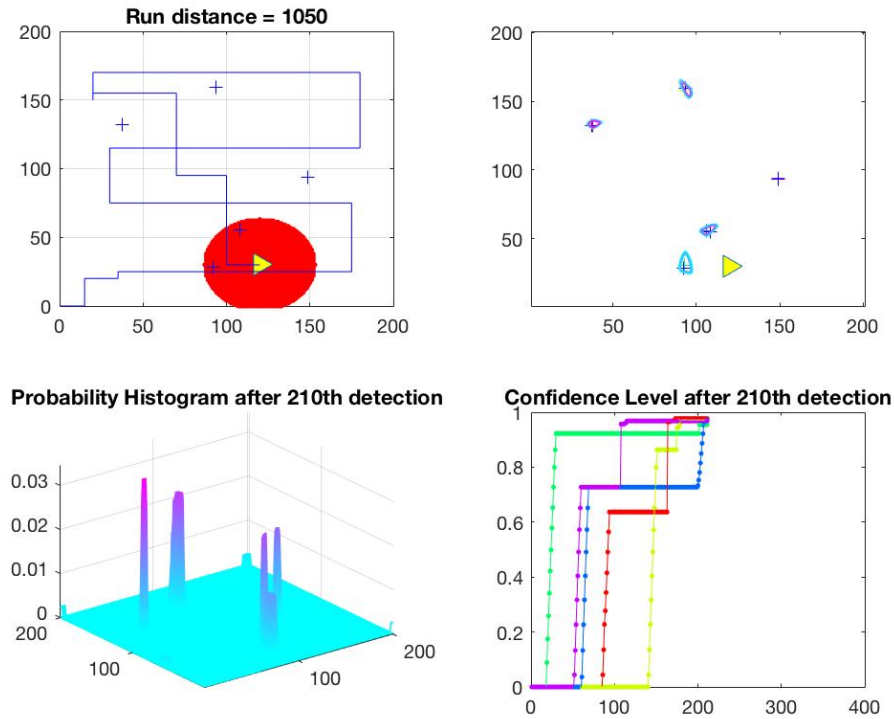
Simple path planning: Scan: resolution 30



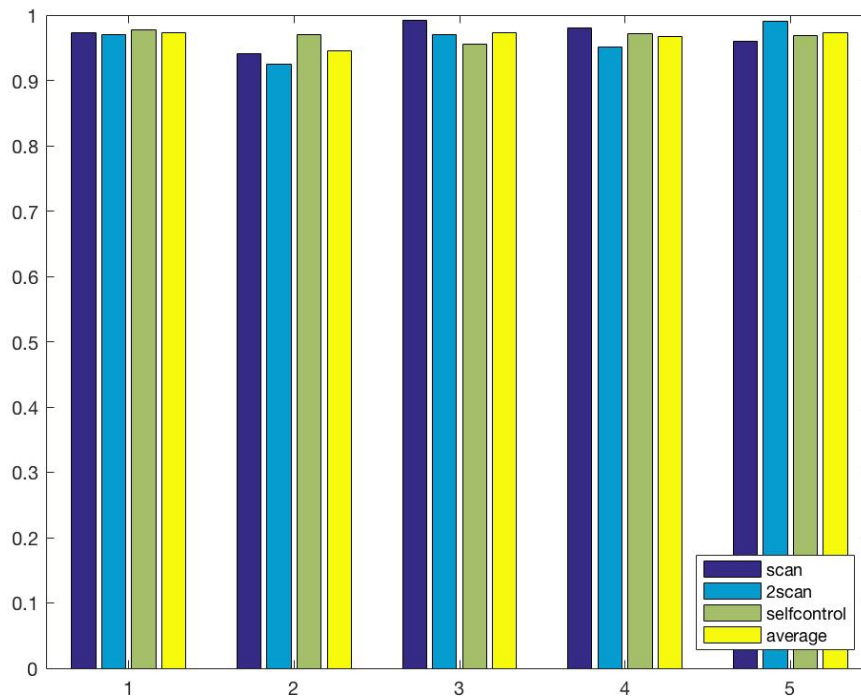
Double scan: Resolution 60 in order to reduce path length



Control by joystick based on the contour and histogram: resolution 30



result compare:



Conclusion:

1. From the confidence level compare chart, we can draw the conclusion that three path planning nearly have the same result after scan whole area.
2. Double scan has the longest run distance compared with others.
3. Controlled by joystick based on contour and histogram can significantly reduce total path length.

Acknowledge:

All three path are executed by joystick, thus run distance may be longer than the result compute by formula, but it isn't big enough to influence the conclusion.

What I plan to do:

Think about path planning algorithm based on the contour and histogram, in order to autonomously control boat to find the optimal path.