

Milestone 2 Progress Evaluation

1 General Information

1. Project Name: IGVC - Intelligent Ground Vehicle Competition
2. Team members:
 - Viet Dung Nguyen (CSE) (dnguyen2016@my.fit.edu)
 - Jinwen Zhang (jzhang2015@my.fit.edu)
 - John Light (jlight2016@my.fit.edu)
 - Sijin Yang (yangs2017@my.fit.edu)
 - Peter Tarsoly (ptarsoly2016@my.fit.edu)
3. Faculty Sponsor: Dr. Marius Silaghi (msilaghi@fit.edu)
4. Client: Dr. Ken Gibbs
5. Meetings with the Client:
 - 10/04/2019
 - 10/11/2019
 - 10/18/2019
6. Date of meeting faculty sponsor:
 - 10/28/2019

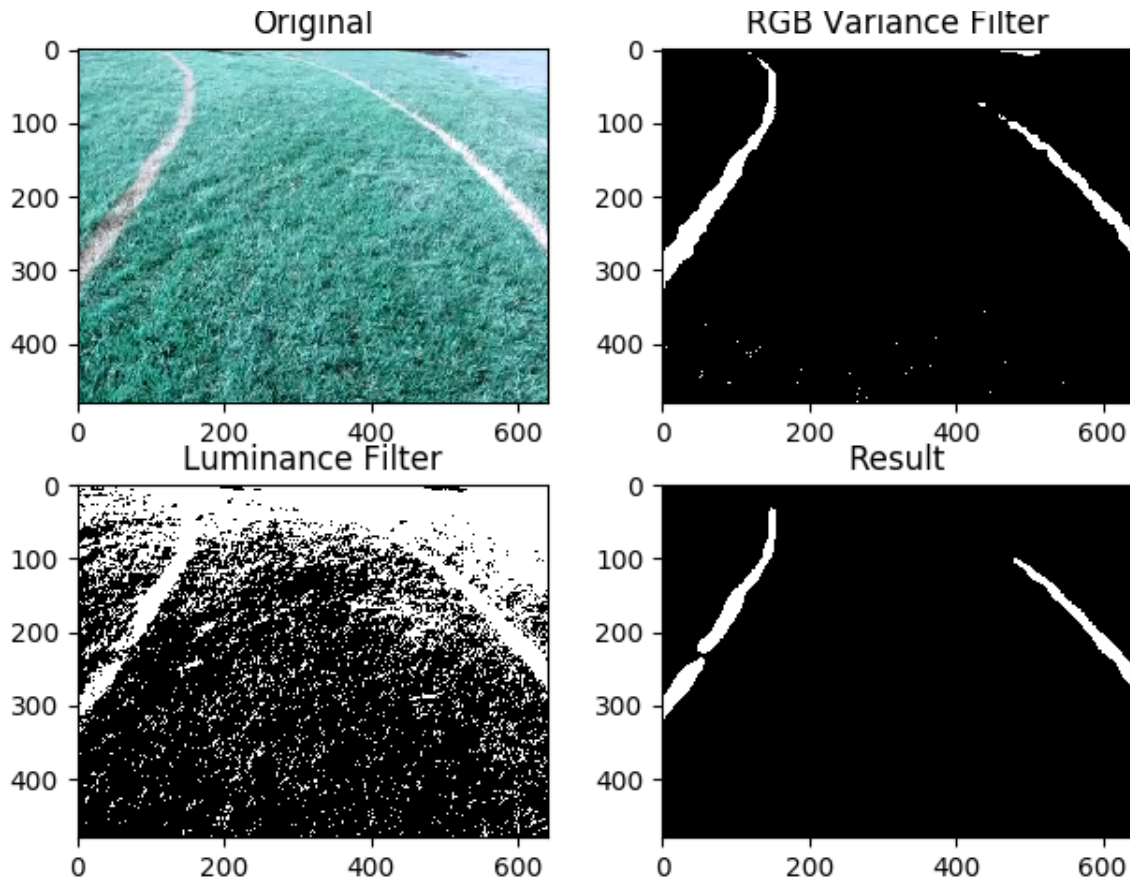
2 Task matrix

Task	Completion %	Viet Dung	To do
Implement lane detection	80	80	Improve the accuracy of the lane detection
Test lane detection	100	100	None

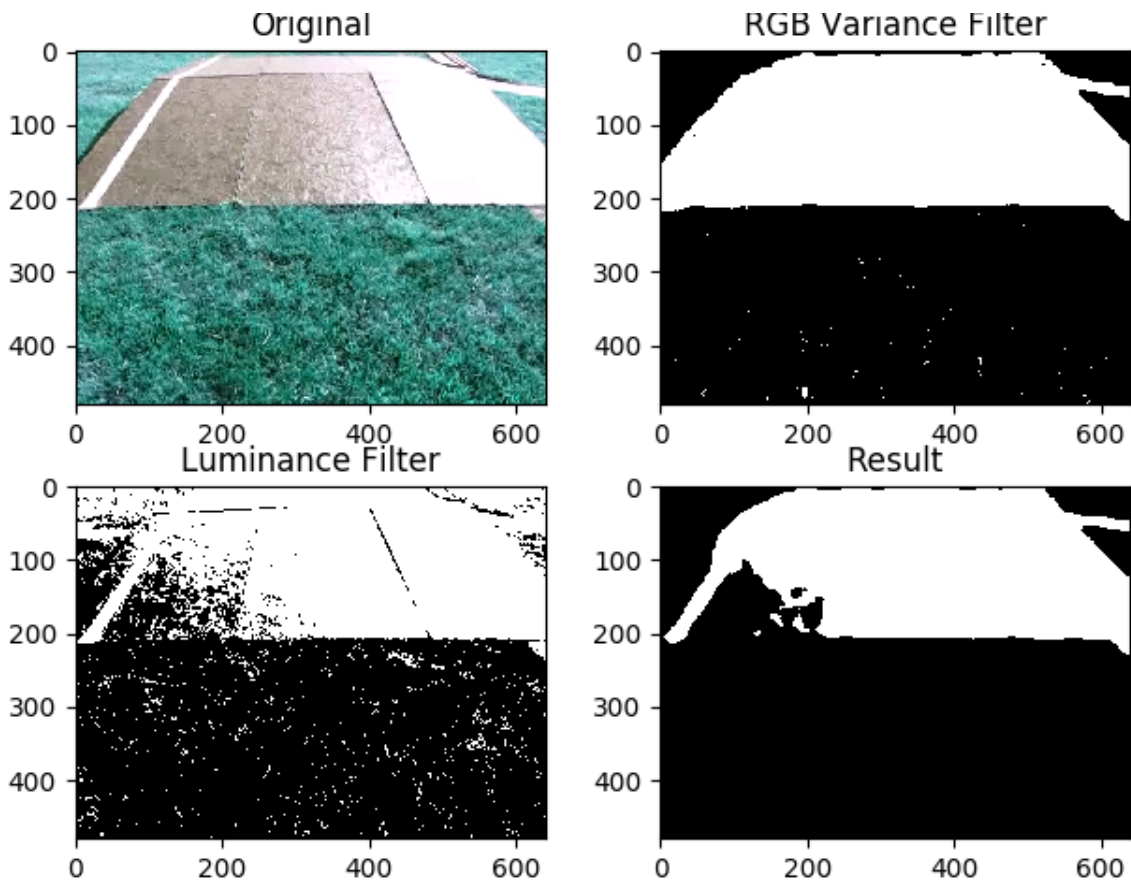
3 Task Discussion:

3.1 Implement lane detection:

The team use several filters in order to detect the white paint on the photo. The first filter is a RGB variance filter, which detect if the values of the R, G, and B channell are different from each other. The second filter use the luminance channel in HLS colorspace in order to detect spot that are lighter than the minimum threshold.



The limitation of this approach is that the program cannot distinguish the white lane from the bright light reflected on the metal surface of the ramp. In order to address this issue, the team is investigating options for pattern detection in order to refine the result.



3.2 Test lane detection:

An executable script was written to test the filters on test input. The output images will display the results of all filters in order to adjust the their settings.

4 Contribution Discussion:

- Viet Dung Nguyen
 - Read the legacy code about lane detection
 - Find more suitable filters for filtering the white paint of the lane boundary in the images
 - Writing test script

5 Plan for next milestone:

- Implement and test mapping
 - The mapping feature will use the data from the detection subsystems, the current position and orientaon of the robot in order to update the map used for path finding.

6 Faculty Sponsor feedback on each task for the current milestone:

- Task 1

- Task 2

Signature

Date

7 Faculty Sponsor evaluation:

Viet Dung Nguyen 0 1 2 3 4 5 6 7 8 9 10

Signature

Date