

Lane detection and Lane Merging using Computer Vision

- **Goal :** Use lane detection algorithms to inform user if the vehicle is in lane or not
- **Dataset:** We plan to record our own data as well as test the algorithm on existing data
- **Packages used:** Using MATLAB/Simulink. Final s/w will:
 1. Identify if the vehicle is on lane or not
 2. Inform the user by “green light” when on lane and no light/indicator when not on lane
 3. Identify the lanes and able to show when one lane mark disappears, the vehicle shall follow the existing marker
 5. Driver shall be able to inform the vehicle system if they intend to change lanes
 6. After switching the systems shall turn on automatically to follow lanes

Sensors Required: Use a camera mounted on dashboard to record

Type of evaluation: We would start with a quantitative evaluation of the algorithms with preexisting datasets and then collect our own using an iPhone mounted on the windshield while driving.

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| Abhinav | 1.Take user input 2.Decide ok to merge 3.Evaluate other algorithms |
| Kaushik | 1.Identify car on lane 2.Observe when car not 3.Evaluate other algorithms |
| Sarthak | 1.Identify lanes 2.Get other data |
| Senthil | 1.Collect data 2.Identify algorithm 3.Code generation |