**Report of Lane Following Mobile Robot**

Sandhya Yadav: - 60

Chinmay Bhoir: - 23

Mahendra Gudla: - 25

Suchita Boga: - 57

We have researched 2 Articles on Lane Following Mobile Robot and find out the main purpose of this project. We researched about this project such as where it is used and what is the importance of this project and how the algorithm works in this project.

**Link of articles: -**

<https://towardsdatascience.com/deeppicar-part-1-102e03c83f2c>

<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/6384/1/Lane-identification-and-path-planning-for-autonomous-mobile-robots/10.1117/12.686278.short?SSO=1>

1. Today, Tesla, Google, Uber, and GM are all trying to create their own self-driving cars that can run on real-world roads. Many analysts predict that within the next 5 years, we will start to have fully autonomous cars running in our cities, and within 30 years, nearly ALL cars will be fully autonomous.

This robot is capable of follow a lane (like in roadways). It can be used in industries for assisting the production process, human assistance etc.

This article guides, how to build your own physical, deep-learning, self-driving robotic car from scratch. How we will be able to make our own car, which detect and follow lanes, recognize and respond to traffic signs and people on the road in under a week.

1. This paper describes a composite lane edge detection approach that uses three algorithms to implement noise filters enabling increased removal of noise prior to the application of image thresholding. The first algorithm uses a row-adaptive statistical filter to establish an intensity floor followed by a global threshold based on a reverse cumulative intensity histogram and a priori knowledge about lane thickness and separation. The second method first improves the contrast of the image by implementing an arithmetic combination of the blue plane (RGB format) and a modified saturation plane (HSI format). A global threshold is then applied based on the mean of the intensity image and a user-defined offset. The third method applies the horizontal component of the Sobel mask to a modified gray scale of the image, followed by a thresholding method similar to the one used in the second method. The Hough transform is applied to each of the resulting binary images to select the most probable line candidates. Finally, a heuristics-based confidence interval is determined, and the results sent on to a separate fuzzy polar-based navigation algorithm, which fuses the image data with that produced by a laser scanner (for obstacle detection).