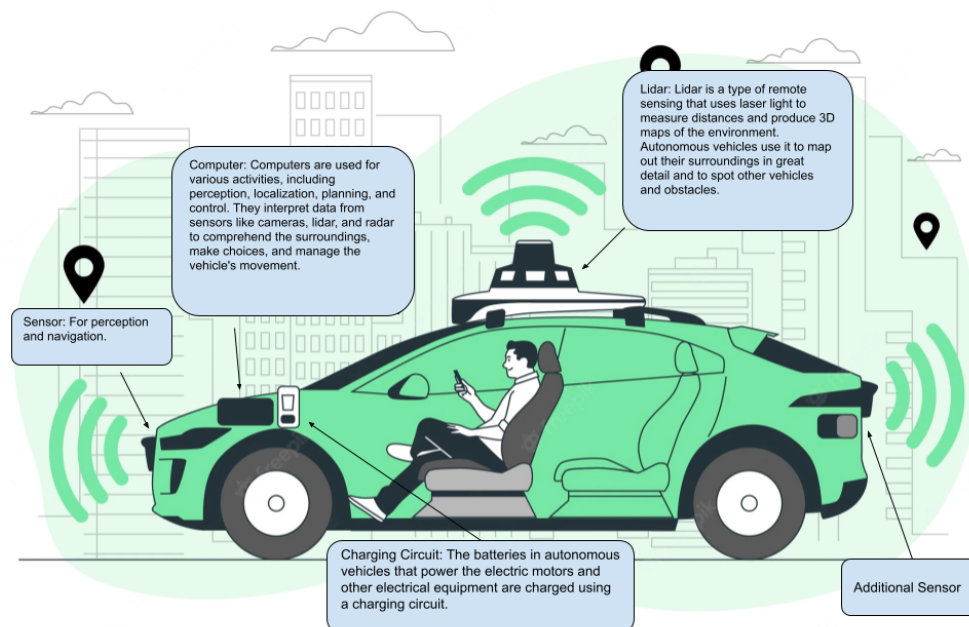


## Report 1 - Nihal Afsal

### Autonomous Vehicle Technology Examples

1. Use the NHTSA crash statistics database to make a statement about automotive crashes and explain why AVs are needed (4-5 sentences). (20 pts)
  - There is a lot of information about automobile accidents in the United States on the NHTSA website. For instance, while discussing crashes, they provide information about the various sexes, age groups, and driving styles (vehicles or motorcycles), among other things. For instance, according to information on fatalities in 2020, 7,713 people between the ages of 25 and 34 died. Young people are more likely to be involved in collisions than people of other ages since there are much more fatalities in this age group than in any other age group.
2. Create a custom high-quality systems-level diagram of an autonomous vehicle using the software of your choice (Google Drawing, Visio, Gimp, etc.). Use a high-quality image of a vehicle and overlay the major autonomous vehicle subsystems on top using boxes. Use color. (20 pts)



3. Using the code provided in Chapter 1 (Section 1.3.a) show detection of the lane lines in the Easy\_HighRes.mp4 video available on Elearning. Show a video of the detections and include your code. (15 pts)

- I tried to improve my code's ability to recognize the lanes, but I had trouble. Nevertheless, I gave it my best effort!

Watch here! :

[https://drive.google.com/file/d/1H3qeWByA2ZOAlZm3x9txCBVc1fizM\\_K\\_/view?usp=sharing](https://drive.google.com/file/d/1H3qeWByA2ZOAlZm3x9txCBVc1fizM_K_/view?usp=sharing)

4. Using the steps provided in Chapter 1 (Section 1.3.b) to show sensor outputs in Rviz. Describe what you think you are looking at in 1-2 sentences. (15 pts)
- Rviz was an intriguing software when I launched it with ROS. I had access to a variety of resources relating to autonomous car technologies. I could examine more sensors like lane invasion, imu, and lidar. They were filled with various colors and perspectives from an automobile when I opened them.
5. Using the steps provided in Chapter 1 (Section 1.3.c) to show a video of you using the Carla simulator. (15 pts)
- I have attached footage of me crashing my car using the Carla simulator.

Watch here! :

<https://drive.google.com/file/d/1miiWBhnUbs7835w5m-2F7bELDABUfydS/view?usp=sharing>