Ethical autonomous vehicles

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school bus scenario

1. humanitarian ethics

- a. Share damage among all people involved in the crash
- b. Avoid deaths it possible
- c. Less damage to weakest group of a population
- d. Decision process
 - i. Human presence detection
 - ii. Profile analysis _ male/female, age
 - iii. paths finding
 - iv. Predictive risk analysis collision odds, injures, death risk
 - v. Fairest path calculation
 - vi. Vehicles ethics: humanist
 - vii. Humanitarian algorithms tries to avoid at all costs

2. Protectionist ethics

- a. Protect vehicle and its driver
- b. Dismisses everything else
- c. No matter how many children are in this school bus, owner is safe

3. profit-based ethics

- a. New insurance policies are emerging for autonomous vehicle crashes
- b. Chooses best possible outcome depending on user's insurance policy
- c. Favors protection of famous people
- d. Getting user's insurance
- e. Physical and psychological trauma is expensive
- 4. Humanist ethics drunk pedestrian
 - a. Drunk pedestrian scenario
 - b. Shares damage among all people in the crash
 - c. Deaths avoided
 - d. Less damage to weakest
- 5. Drunk pedestrian protectionist ethics
 - a. Take risk of hitting pedestrian
- 6. Drunk pedestrian- profit based ethics

- a. Cost of crash anticipated
- b. Covering the cost of are hit pedestrian is more profitable than covering a car crash
- c. Odds of hitting pedestrian are much lower
- 7. Bicycle scenario humanist ethics
 - a. Hitting the biker is avoided
 - b. Hitting van is fairest output even though there is a small chance will miscarry
- 8. Bicycle scenario protectionist ethics
 - a. Hitting cyclist is safer for driver
 - b. Death is ok
- 9. Bicycle scenario profit based ethics
 - a. user's insurance can't cover the cost of both outputs
 - b. Hits biker as odds of colliding with biker is uncertain but hitting Caris certain
- 10. President humanist ethics
 - a. Difficult situation because both outcomes kill a human
 - Sacrificing one person to save a life of three people (even though a child dies is fairer than doing the opposite
- 11. President protectionist ethics
 - a. Hitting a human being instead of a tree is the safest option for user
- 12. President profit based
 - a. more valuable asset (president) is spared