

Self-Driving Car

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What's in a self-driving car?

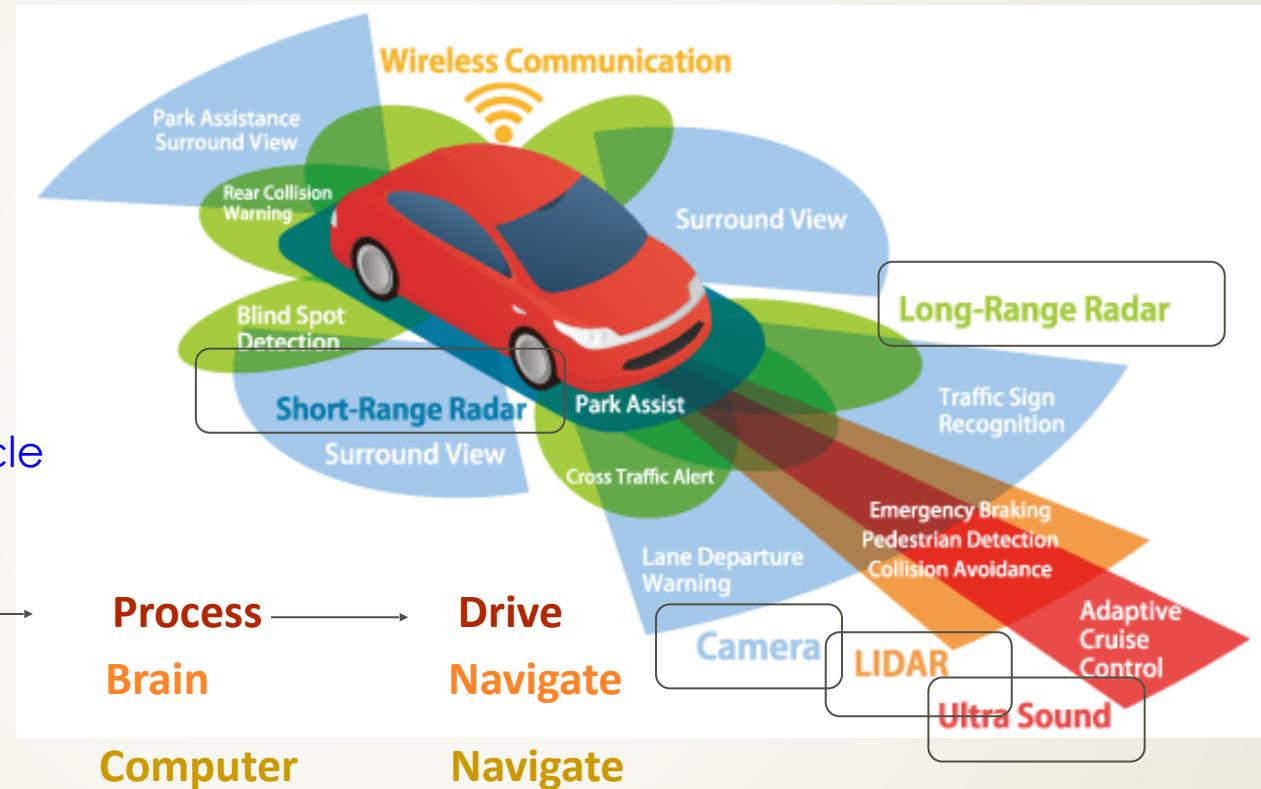


Lexus Autonomous Vehicle

Observe

Cars: Driver's eye

Self-driving: Sensors

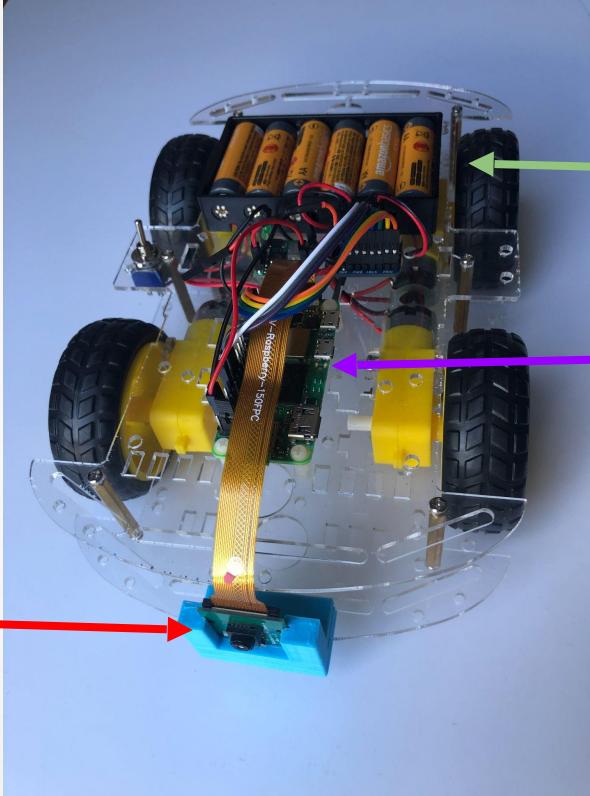


MIT RACECAR-MN

“Rapid Autonomous Complex Environment COMPeting Ackermann steeRing Model Nano”



RACECAR-ZERO

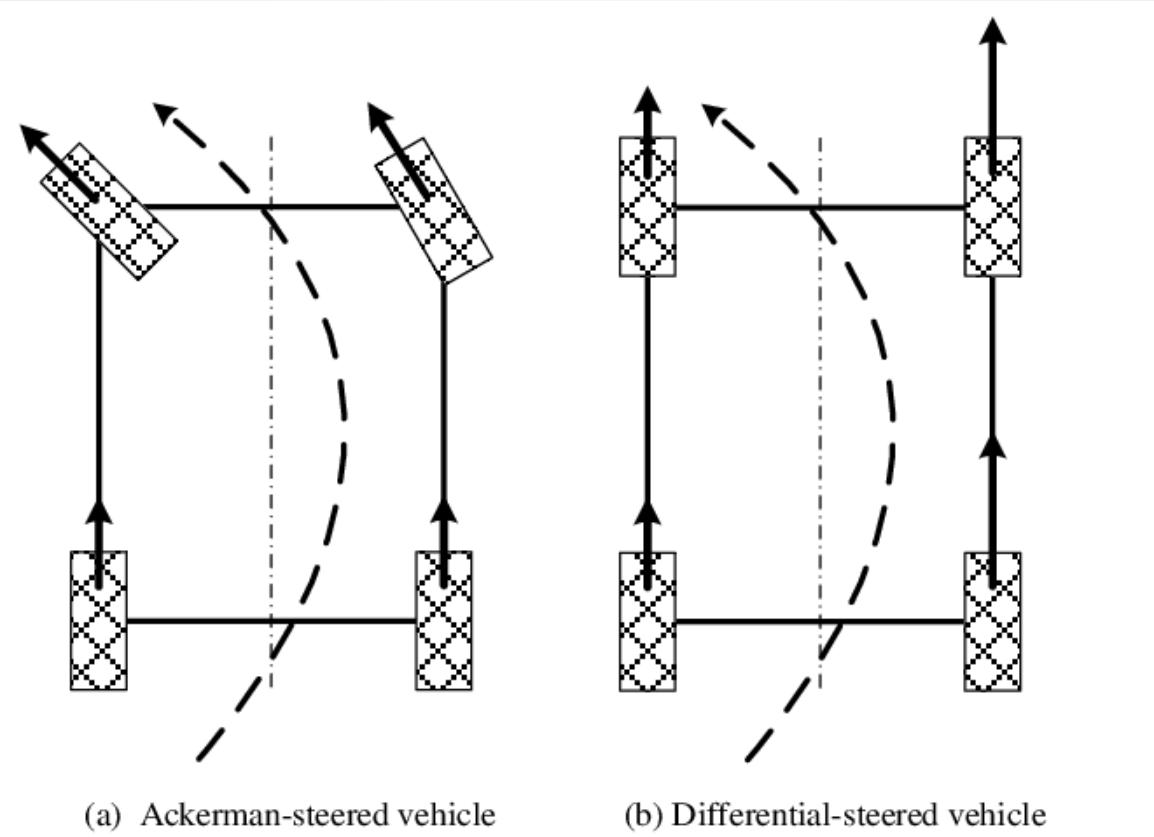


Pi Camera

Battery

Raspberry
Pi Zero

Key Difference Between Two Models

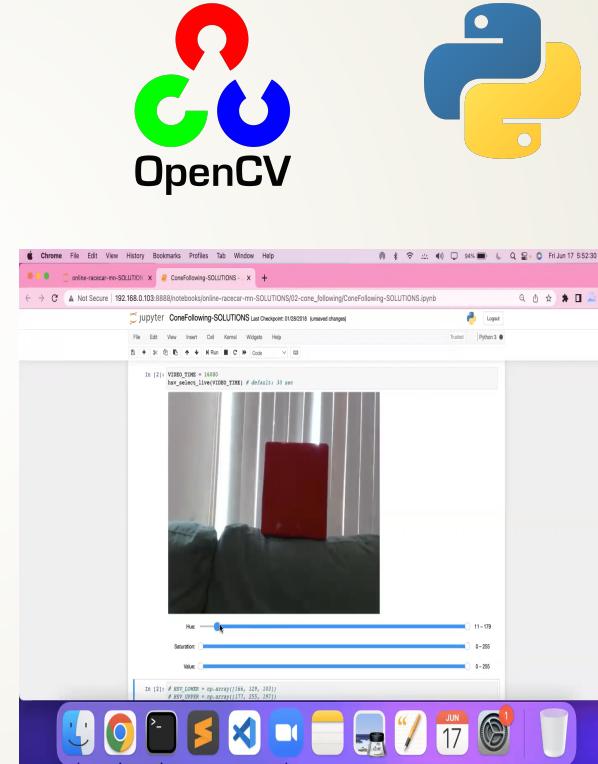
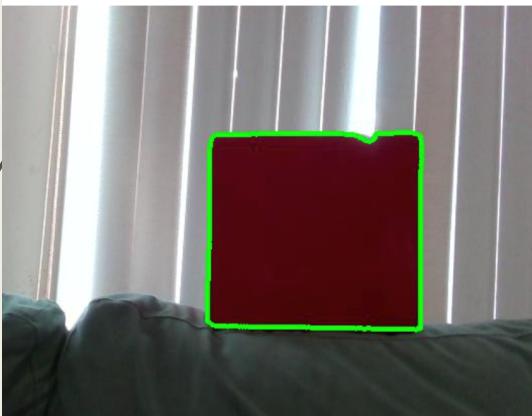


(a) Ackerman-steered vehicle

(b) Differential-steered vehicle

Programming: Python and Computer Vision

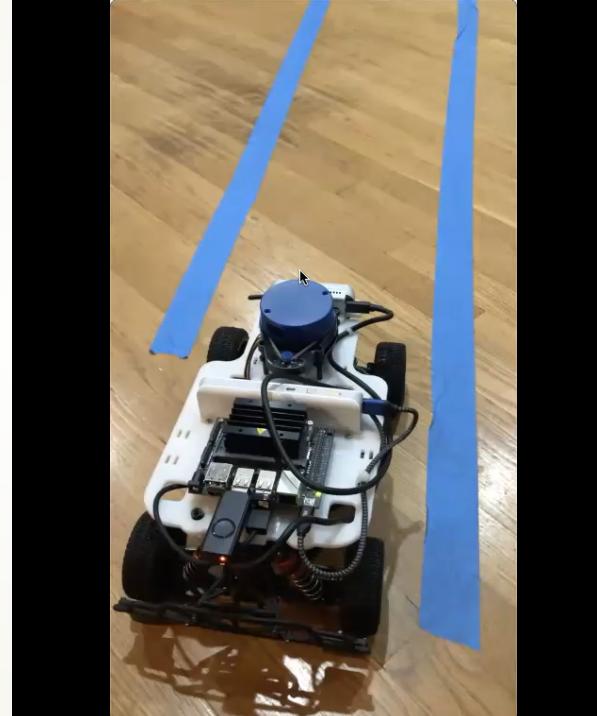
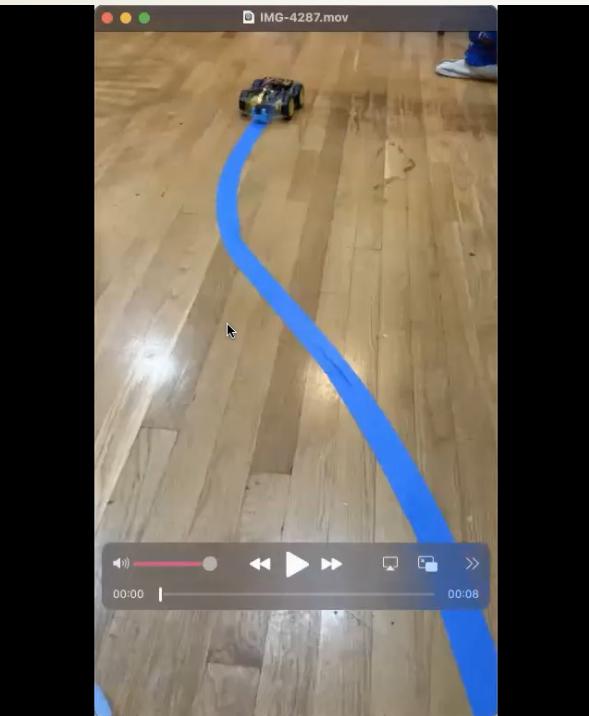
1. Object identification by color
2. Masking to find contours
3. Program to tell the car follow the contour



Cone Following



Line Following



RacecarSim

- Unity based simulator
- Car can be programmed using python



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2021 Robot Block Party