



Volkswagen



PORSCHE



CARMEQ.



TOMTOM

Autonomous Vehicles

Software

Sensors

V2V

Maps

Levels of Automation

Localization

Real World v Virtual World

Sensors

Cameras

Radars

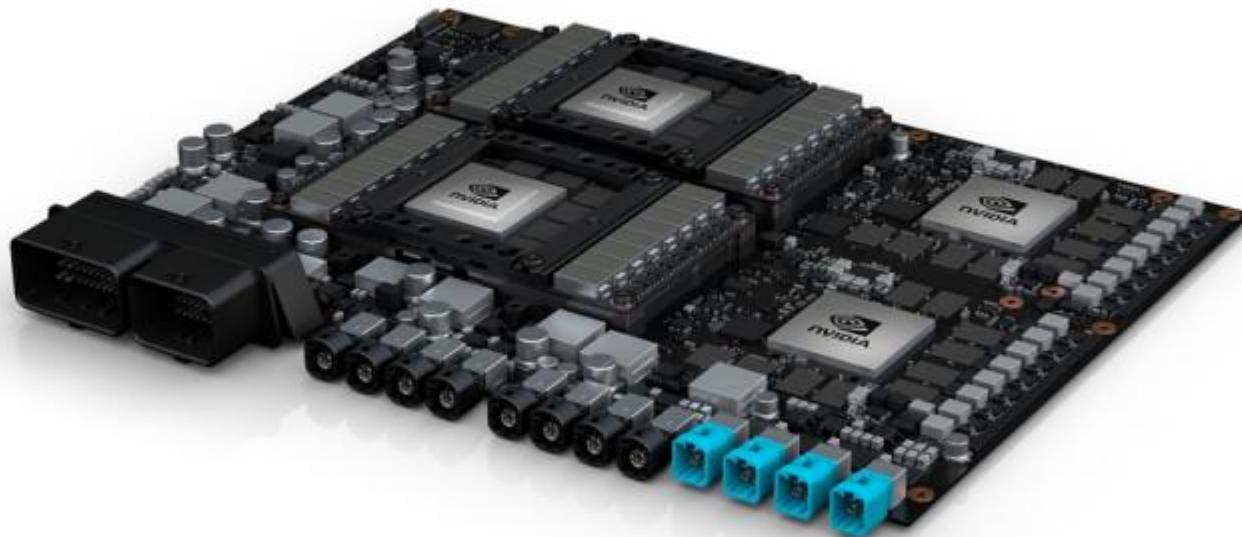
LiDars

Ultrasound

IMU, GPS

Computation Platform

Nvidia Pegasus - GPU - Audi, VW, Mercedes & Baidu



Computation Platform

Intel - BMW, Google, Fiat



KEEP CALM

AND

DO EVERYTHING

SDC - Self Driving Cars



SDC - Stupid Driving Cars??



SDC - Stupid Driving Cars!!



Perception & Path Planning

Deep Learning

Reinforcement Learning

Bayesian Learning

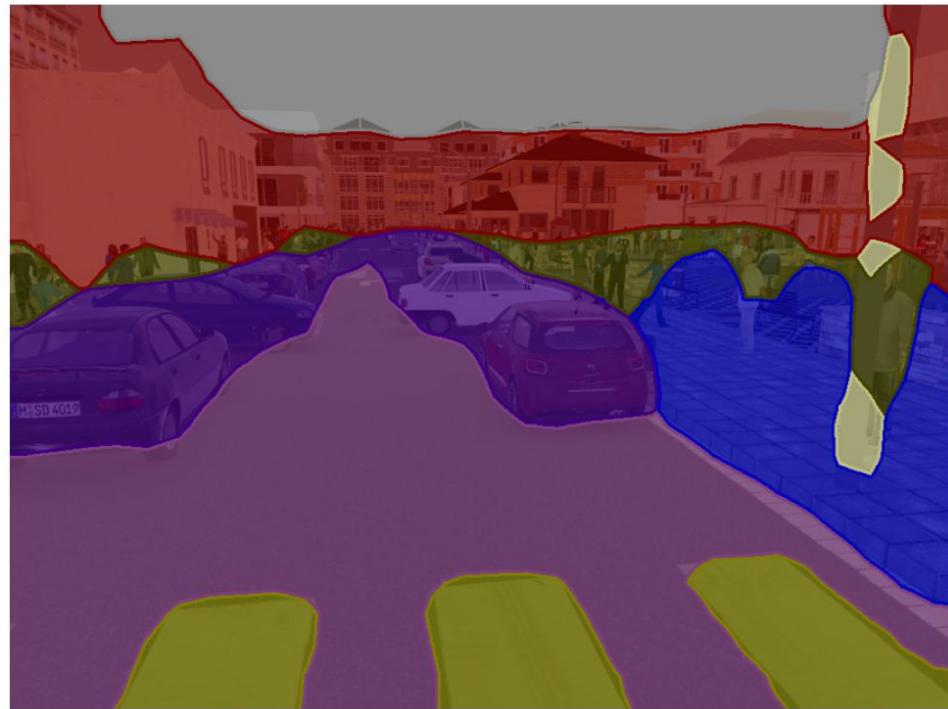
Control Systems

ROS

Deep Learning - Semantic Segmentation



Opacity 69%
Mask 0%



Sky Building Road Sidewalk Fence Vegetation Pole Car Pedestrian

Synthetic Data To Real Data



DeepGTAV - Sim for Deep Reinforcement Learning



Bayesian Deep Learning - Quantify Uncertainty

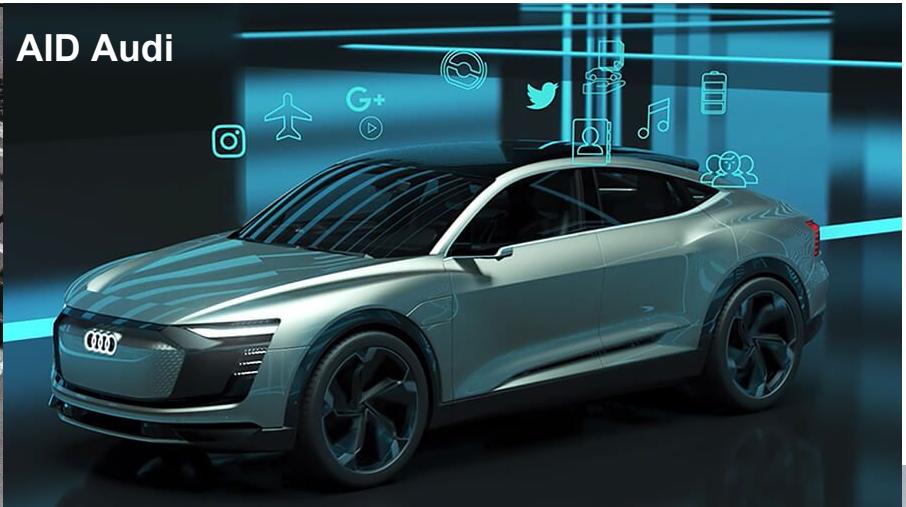


Future

Commodity: Autonomous Driving software

Everything that moves WILL BE AUTONOMOUS.

SWARM - Dinah's robots (Seveneves)



Resources

DL: Stanford CS231n & [course.fast.ai](#)

RL: David Silver - Reinforcement Learning

SIM: github.com/ai-tor/DeepGTAV

meetup.com/autonomous-mobility-berlin

Hello World example - Imitation Learning.

Meetup: Autonomous Mobility, Berlin

2 Nov: Crash Course
7,8 Dec: Robocar Rally, Berlin
29 Jan: 10 week long course







**With Great Power Comes Great Responsibility.
- Uncle Ben**

Shreyas Gite

shreyasgite@gmail.com

 @shreyasgite