

Self Driving

整体概述

<https://zhuanlan.zhihu.com/p/415307584>

资料合集 <https://zhuanlan.zhihu.com/p/58422485>

<https://zhuanlan.zhihu.com/p/504375332>

很赞的github项目: pythonRobotics https://atsushisakai.github.io/PythonRobotics/modules/path_planning/bspline_path/bspline_path.html

python控制相关的库

Sympy	https://docs.sympy.org/latest/tutorial/index.html#tutorial
Control	https://python-control.readthedocs.io/en/0.9.1/intro.html

规划

路径规划

高飞——运动规划 https://www.bilibili.com/video/BV1Et4y167Ak?spm_id_from=333.1007.top_right_bar_window_custom_collection.content.click

机器人路径规划、轨迹优化系列课程 <https://www.bilibili.com/video/BV1yT4y1T7Eb?p=2>

<https://www.cs.cmu.edu/~motionplanning/lecture/lecture.html>

很赞的github仓库 <https://github.com/zhm-real/PathPlanning>

LQR

DR_CAN https://www.bilibili.com/video/BV1RW411q7FD?spm_id_from=333.999.0.0

https://blog.csdn.net/qq_24649627/article/details/104690279

<https://jonathan-hui.medium.com/rl-lqr-ilqr-linear-quadratic-regulator-a5de5104c750>

Pure pursuit

https://www.bilibili.com/video/BV1cL411n7KV?spm_id_from=333.999.0.0

DR_CAN

https://blog.csdn.net/weixin_44718107/article/details/123944631#commentBox

MPC

Apollo代码学习 https://blog.csdn.net/u013914471/category_8019324.html

<http://www.mpc.berkeley.edu/mpc-course-material>

http://cse.lab.imtlucca.it/~bemporad/mpc_course.html

PID

忠厚老实的老王 <https://space.bilibili.com/287989852/video?tid=0&page=2&keyword=&order=pubdate>

小黎的Ally <https://space.bilibili.com/477041559/channel/seriesdetail?sid=863037&ctype=0>

很赞的github仓库 <https://github.com/zhm-real/MotionPlanning>

<https://github.com/Shunichi09/PythonLinearNonlinearControl>

learning

Self-driving cars with Carla and Python <https://www.youtube.com/watch?v=J1F32aVSYaU>

行为决策建模

MDP

POMDP

决策

*预测

卡尔曼滤波

线性卡尔曼

扩展卡尔曼

无迹卡尔曼

<https://github.com/rlabbe/Kalman-and-Bayesian-Filters-in-Python>

无人车模型

运动学

动力学

自动驾驶仿真环境

Highway-env

<https://highway-env.readthedocs.io/en/latest/environments/highway.html>

<https://github.com/eleurent/highway-env>

强化学习专用

Udacity's Self-Driving Car Simulator

<https://github.com/udacity/self-driving-car-sim>

DL

<https://www.leiphone.com/category/transportation/RuoKaDSTmd1dCIUV.html>

<https://www.zybuluo.com/Pigmon/note/902580>

Term 2 Simulator

<https://github.com/udacity/self-driving-car-sim/releases>

self-driving-car project

<https://github.com/ndrplz/self-driving-car>

Car_demo——ROS-GAZEBO

https://github.com/osrf/car_demo

Carla

<https://github.com/carla-simulator/carla>

<https://www.zhihu.com/people/xie-xiao-fei-78-24/posts>

常用的优化求解器

OSQP

编程

C++

python

百度Apollo

EM Planner

Lattice Planner

Apollo平台学习

https://blog.csdn.net/Travis_X

cyberRT

<https://github.com/daohu527/Dig-into-Apollo>