

C++RRT源码实现

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RRT算法学习:

<https://zhuanlan.zhihu.com/p/195664738>

https://blog.csdn.net/weixin_42875283/article/details/124408158?ops_request_misc=%257B%2522request%255Fid%2522%253A%2522171334185916800178559482%2522%252C%2522scm%2522%253A%25220140713.130102334..%2522%257D&request_id=171334185916800178559482&biz_id=0&utm_medium=distribute.pc_search_result.none-task-blog-2~all~top_positive~default-1-124408158-null-null.142^v100^pc_search_result_base2&utm_term=RRT&spm=1018.2226.3001.4187

1: 文件结构和APF一样

2: 环境配置:

使用opencv库画图, 要能include<opencv2>,可以在usr/lib/include/opencv4里面找到这个库

由于前面多了一层opencv4, 所以要自定义链接, 否则链接不到
sudo ln -s /usr/include/opencv4/opencv2 /usr/include/

3: Cmakelists配置:

和APF的Cmakelists几乎规则相同

但是APF用的是matplotlib画图, 链接的是python库, 这里要链接opencv库

声明要求的 cmake 最低版本

cmake_minimum_required(VERSION 2.8)

set(CMAKE_CXX_STANDARD 11)

project(TEST)

查找Python3库

find_package(Python3 COMPONENTS Interpreter Development)

find_package(OpenCV REQUIRED)

设置Python头文件路径 (通常不需要手动设置, find_package会帮你做这件事)

如果find_package没有正确找到, 你可以手动设置

set(PYTHON_INCLUDE_DIRS "/usr/include/python3.8")

添加头文件到工程

include_directories(\${PYTHON_INCLUDE_DIRS})

include_directories(\${OpenCV_INCLUDE_DIRS})
)

添加一个可执行程序

add_executable(test main.cpp rrt.h)

链接Python库到工程

target_link_libraries(test PRIVATE \${Python3_LIBRARIES} \${OpenCV_LIBS})

4;源码执行

源源码

https://github.com/kushuaiming/planning_algorithm/blob/master/rrt/rrt.cc

写过注释的源码：

<https://github.com/squarepantsbobsponge/CS/tree/main/ROS/RTT>