Developing an Autonomous Valet Parking System in Simulated Environment

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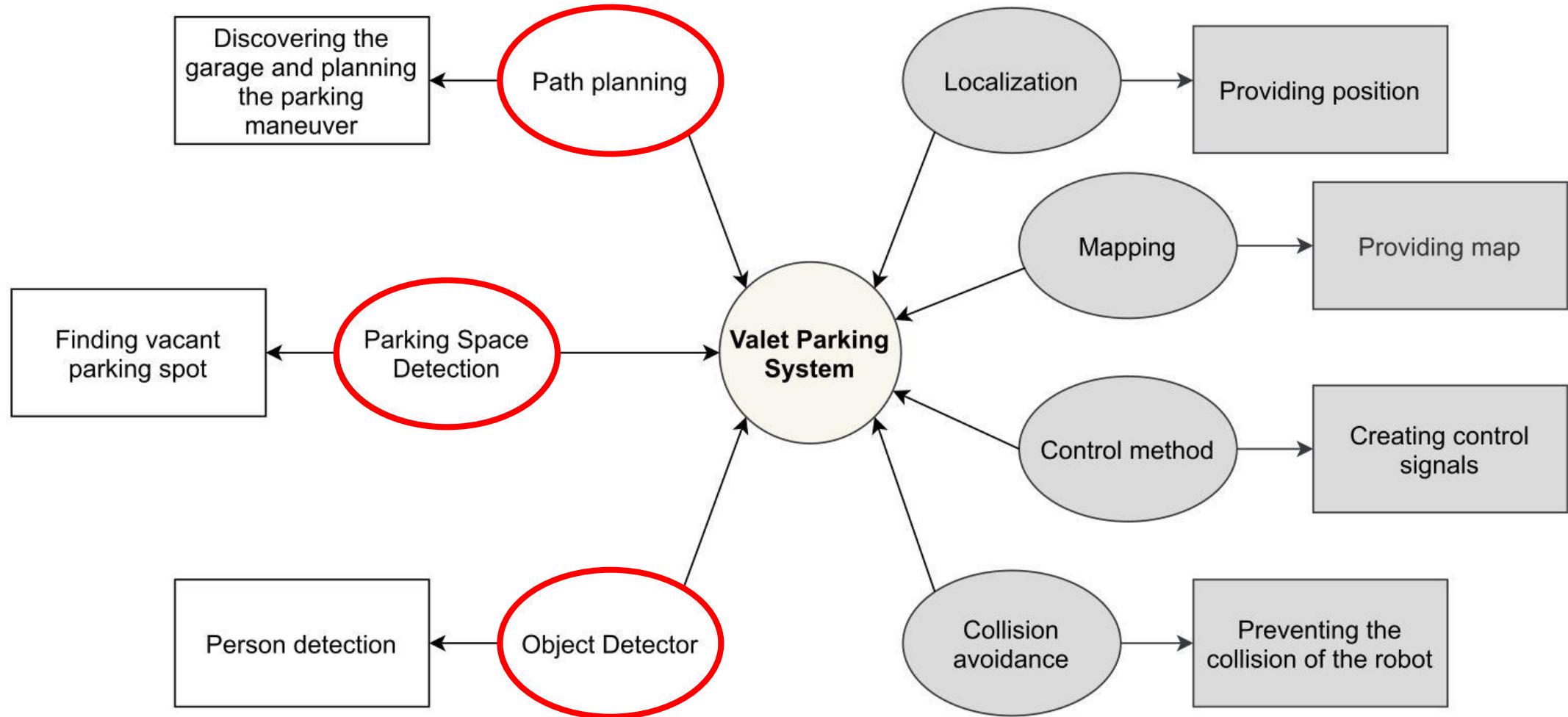Department of Automation and Applied Informatics
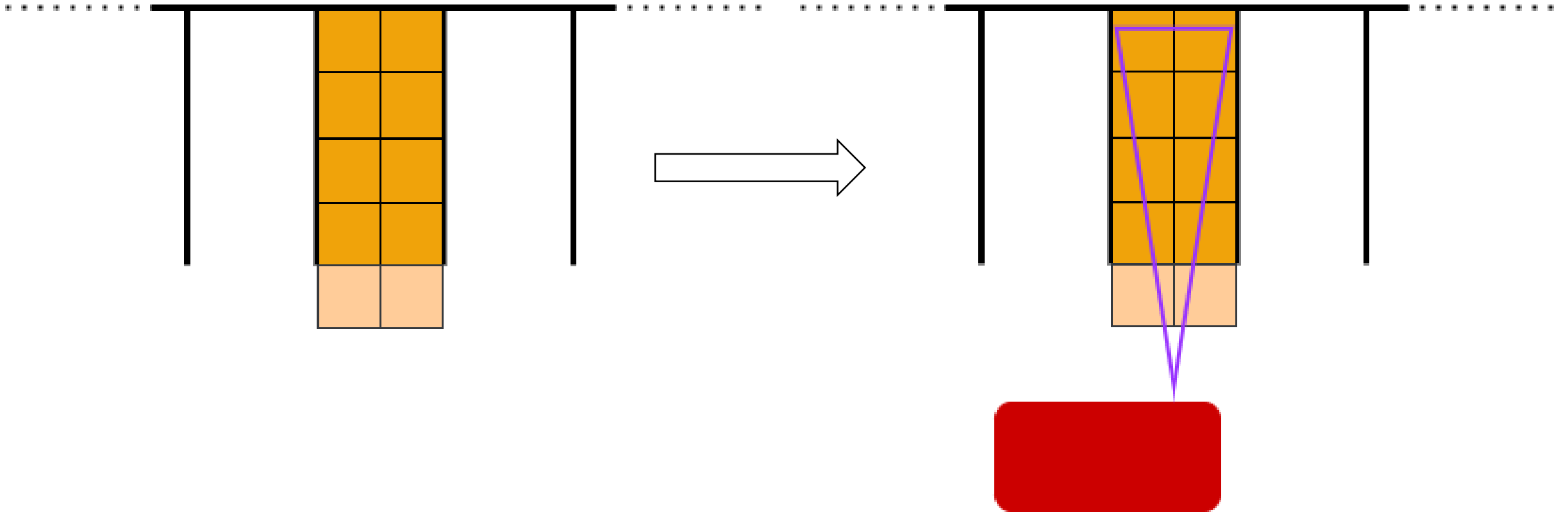
SAMI 2021

Introduction
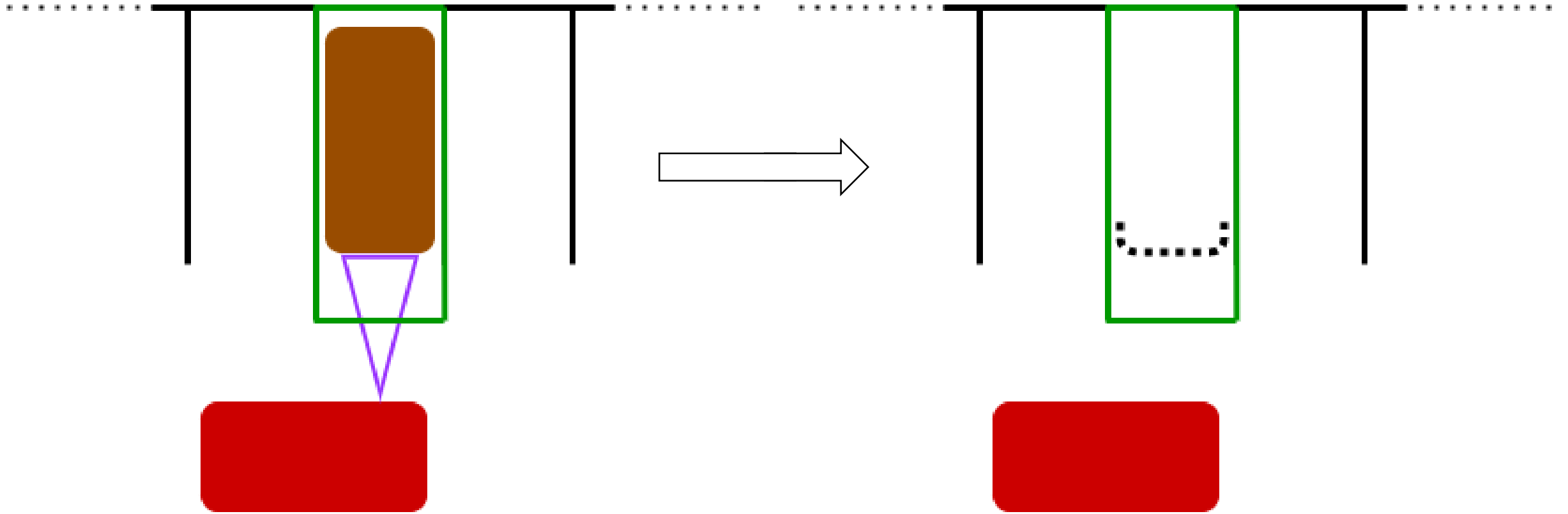
Introduction (2)

Parking Space Detection

Parking Space Detection (2)

Parking Space Detection (3)

Path planning

- Application specific constraints

  > Lanes   →   Structured

  > Parking maneuver   →   Precisely followable
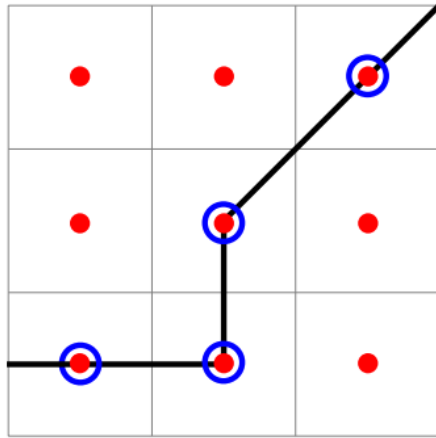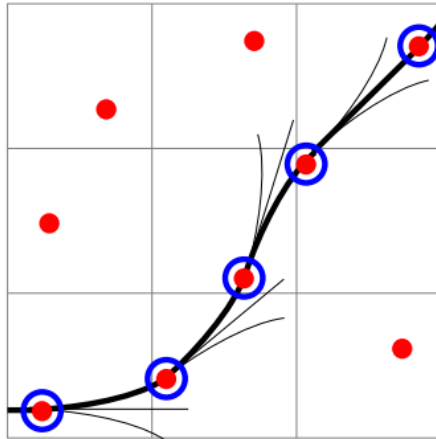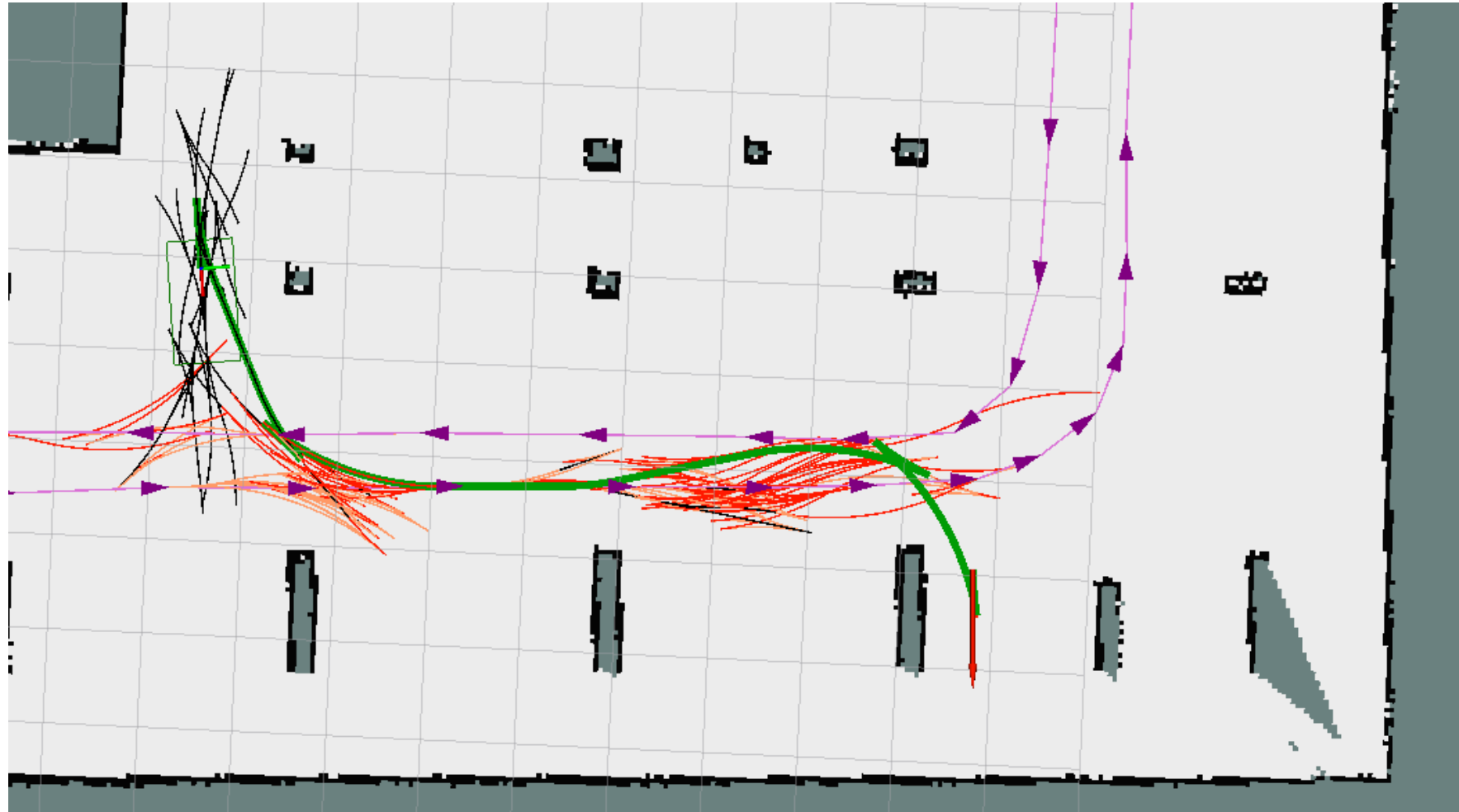
  > Online path planning   →   Fast

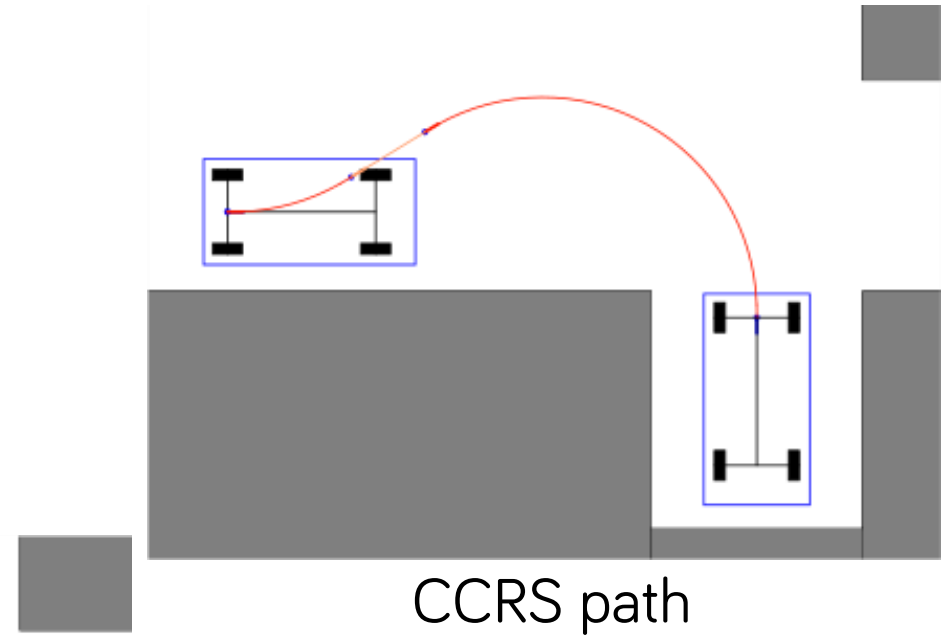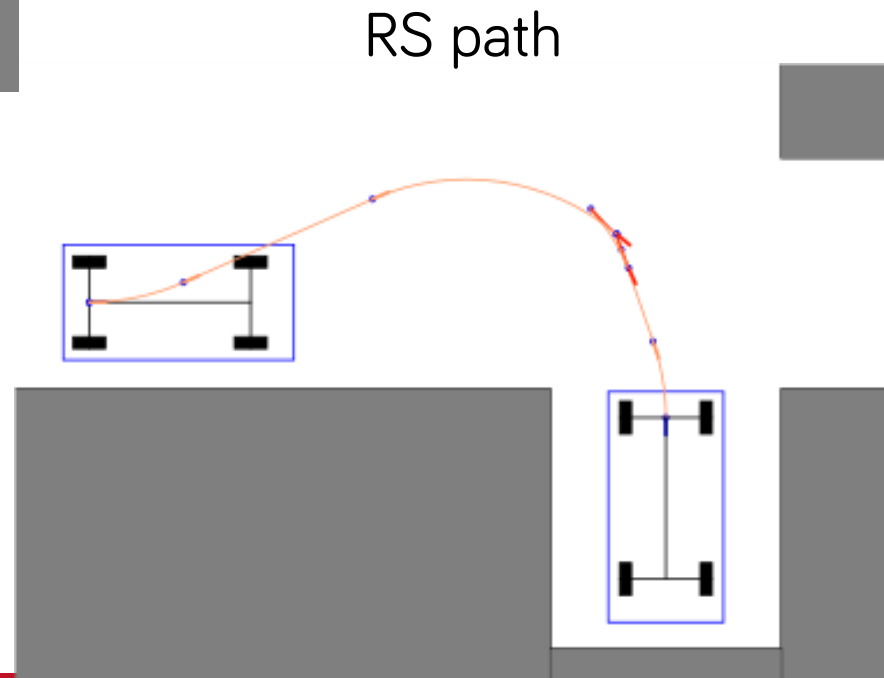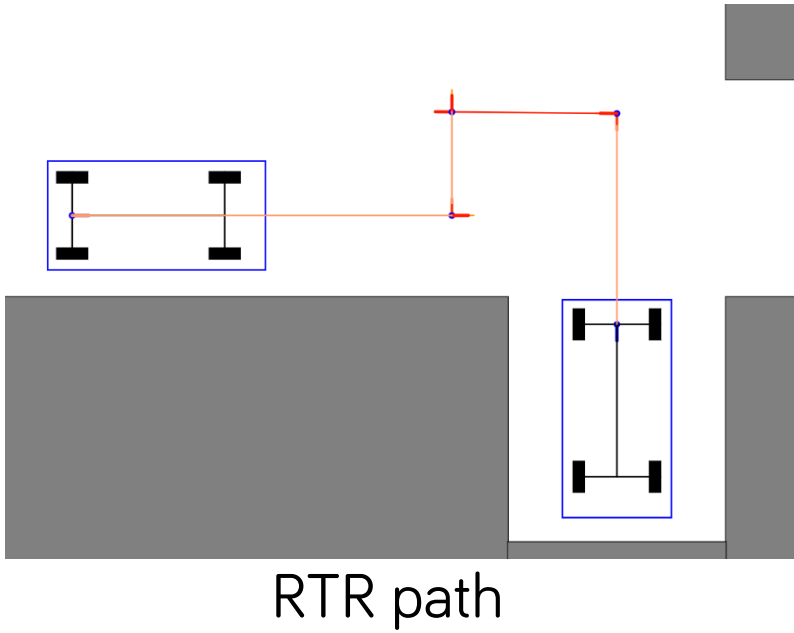Two different planner
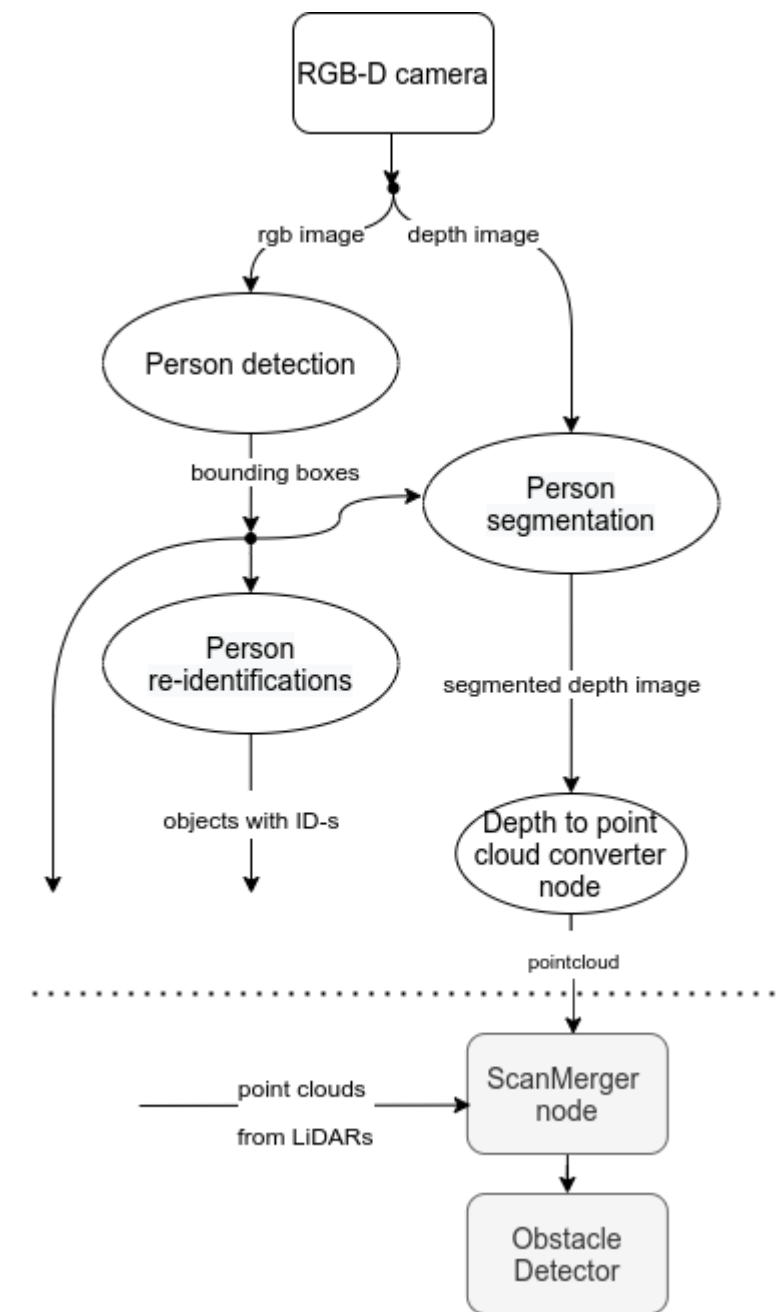
Hybrid A* in structured environment

A*

Hybrid A*

Hybrid A* in structured environment
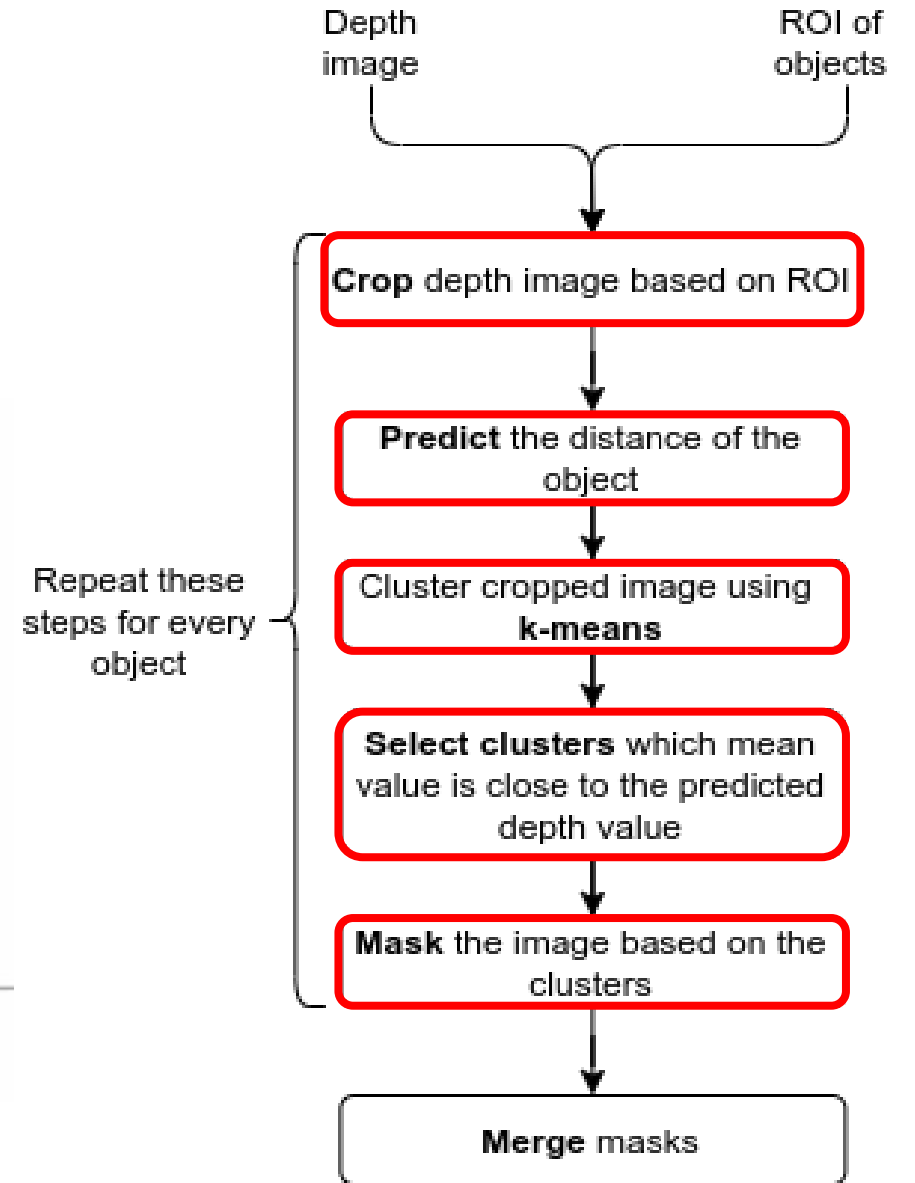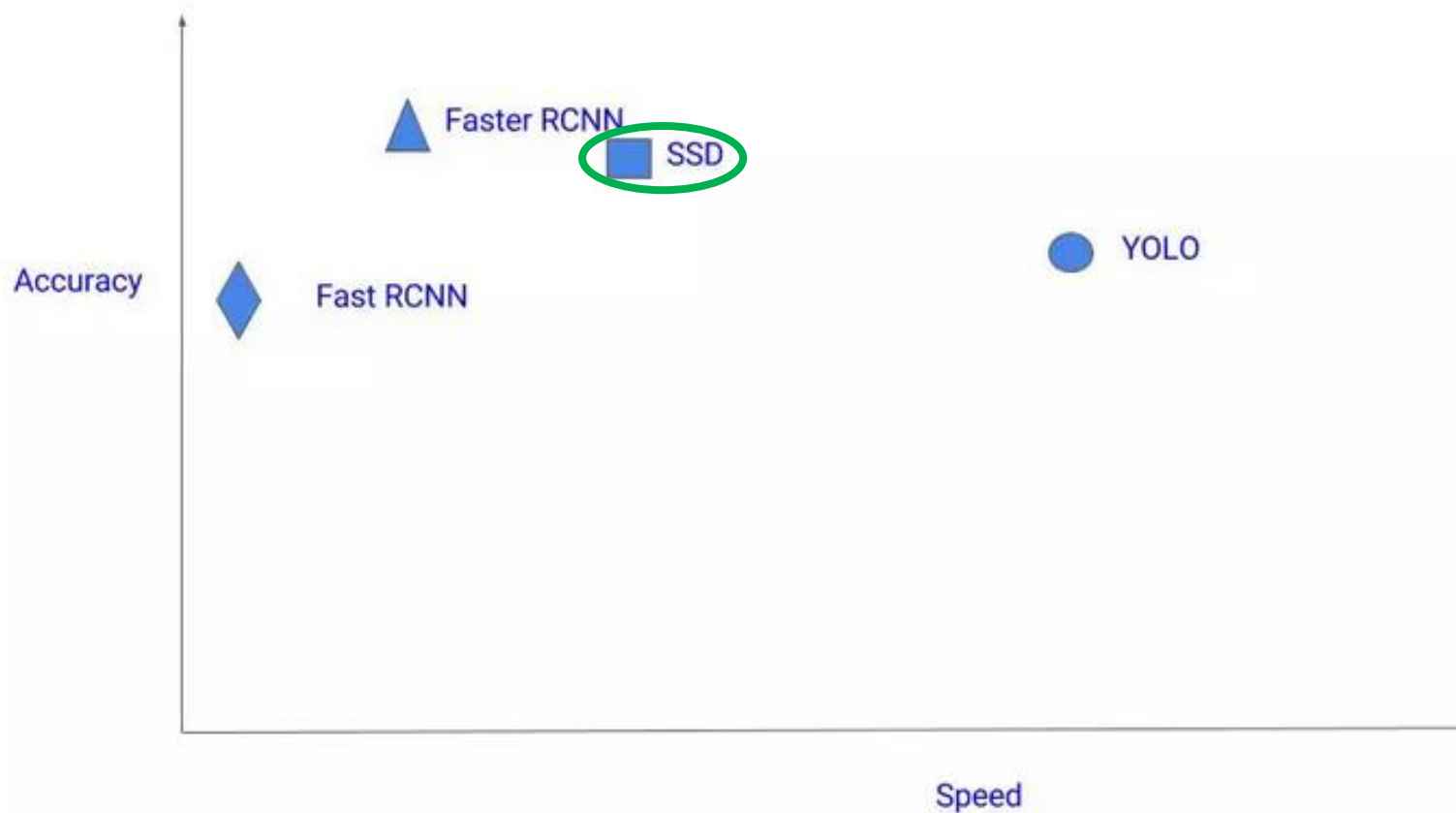
RTR + CCRS
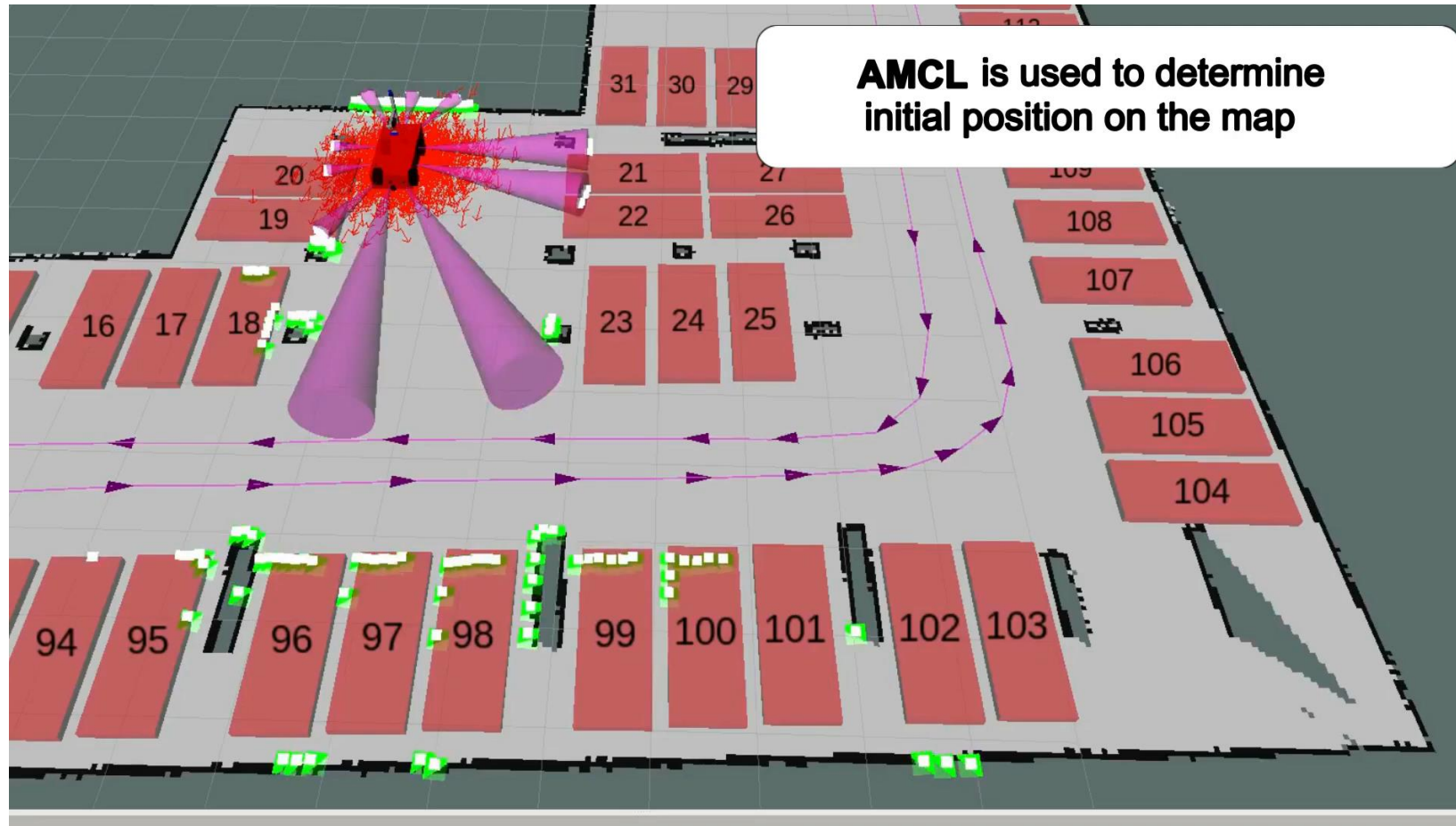

RTR path

RS path

CCRS path

Dynamic object detection
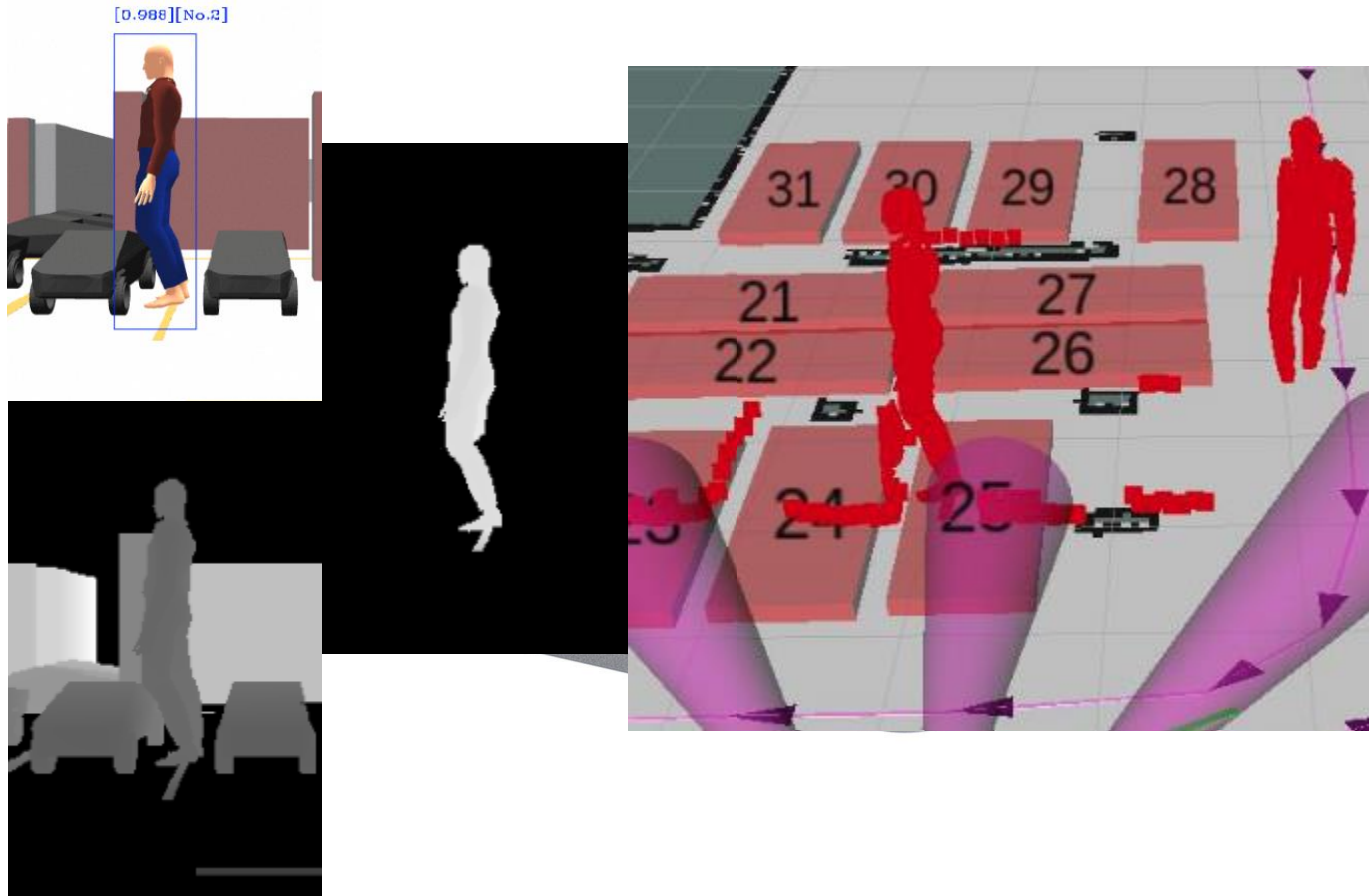
Dynamic object detection (2)

The system in operation (video demo)

Video available on: https://www.youtube.com/channel/UCethKCG_CuYYY_Mb5pV8jIg

Future plans