



UNIVERSITÀ DEGLI STUDI DI PADOVA

SCHOOL OF ENGINEERING

DEPARTMENT OF INFORMATION ENGINEERING

SECOND CYCLE DEGREE IN AUTOMATION ENGINEERING

MASTER THESIS

LOCAL PATH PLANNING WITH
MOVING OBSTACLE AVOIDANCE
BASED ON ADAPTIVE MPC IN ATLASCAR2

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Abstract

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Chapter 1

Introduction

ATLAS Project

Context of the Problem and Motivation

Proposed Approach

Thesis Outline and Contributions

Literature Review

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Model Predictive Control

Moving Obstacle Avoidance

Problem Formulation

Design of Adaptive MPC

Simulation Results

Lane Following

Problem Formulation

Design of Adaptive MPC

Simulation Results

Conclusions and Future Work

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