dedication (optional)

Summary

Give a summary about the project and what it solved. This is to give people reading the report a feel of what it is about, and if they should read it.

Preface

In this report I shall present the work I have done during my fall semester of 2021....

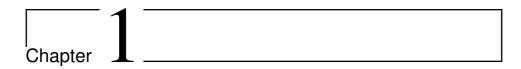# Table of Contents

List of Tables

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Abbreviations

Symbol   =   definition

Chapter 1

Introduction

In this chapter an introduction to the project is given. The motivations behind the project, a description of the problem, the authors contribution to the problem and prevous work on this field is presented. Lastly an outline of the report is given.

1.1 Motivation

As the world moves into the direction of autonomous transportation, the development of algorithms that ensures safe travel are of the utmost imporance. Research on collision avoidance is paramount to guarantee the safty of autonomous transportation.

The Norwegian Public Roads Administration wishes to both digitalize and autonomize the Norwegian ferry system. As a response to this the Norwegian University of Science and Technology have granted much attention to the research of autonomous seakeeping. Two small prototype ferries have been build to work as a platform to do testing in a real world scenario.

Autonomous ferries can replace the need to build bridges over water, in both cities and rural areas. Building bridges across the Norwegian fjords are an expensive endeavor that takes many years and have a big impact on the local enviroment. An autonomous ferry can in this scenario be deployed significantly faster for a much lower cost than a brige. The building of the facilities for the ferries such as docks will also have a much lower impact on the local enviroment. In the cities the demand of ferries are quite different to those in more rural areas. With a growing population, the cities grow bigger and people are spread out over a larger area. The wish for efficient, low cost and climate friendly alternatives to transportation is bigger than ever. Electric autonomous ferries can transport passengers along the waterways with little enviromental impact such as noice and pollutions. There is a considerable international market for these vessels and research on this topic will lead to a speedier deployment.

1.2   Problem

A description of the problem i am trying to solve.

1.3   Contributions?

1.4   Previous work
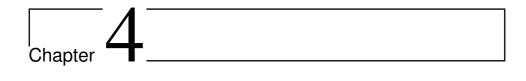
1.5   Outline

A description of what you will find in the different chapters.

Chapter 2

Theory

Chapter 3

Collision avoidance

Simulator

Chapter 5

Results from simulator

Chapter 6

Conclusion

Appendix

Write your appendix here...