Raphaël ABELLAN–ROMITA

Robotics

Internship Report

Obstacle avoidance with robust path generation

*A Internship report submitted in fulfillment of the requirements
for the degree of 2nd Year Internship*

in the

SPID
ROB

"With regard to robots, in the early days of robots people said, 'Oh, let's build a robot' and what's the first thought? You make a robot look like a human and do human things. That's so 1950s. We are so past that."

Neil deGrasse Tyson

Abstract

2nd Year Internship at Institut de Robòtica i Informàtica Industrial

Obstacle avoidance with robust path generation

Internship Report

by Raphaël ABELLAN–ROMITA

The Thesis Abstract is written here (and usually kept to just this page). The page is kept centered vertically so can expand into the blank space above the title too. . .

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UPC   Universitat **P**olitècnica de **C**atalunya

Chapter 1

Mission of the research center

1.1 The Polytechnic University of Catalonia

The Polytechnic University of Catalonia, named in Catalan Universitat Politèc-
nica de Catalunya, currently referred to as BarcelonaTech and commonly
named just as UPC, is the largest engineering university in Catalonia, Spain.
It also offers programs in other disciplines such as mathematics and architec-
ture. UPC's objectives are based on internationalization, as it is one of Eu-
rope's technical universities with the most international PhD students and
the university with the largest share of international master's degree stu-
dents. UPC is a university aiming at achieving the highest degree of engi-
neering/technical excellence and has bilateral agreements with several top-
ranked European universities.

UPC is a member of the Top Industrial Managers for Europe network,
which allows for student exchanges between leading European engineering
schools. It is also a member of several university federations, including the
Conference of European Schools for Advanced Engineering Education and
Research (CESAER) and UNITECH. The university was founded in March
1971 as the Universitat Politècnica de Barcelona through the merger of engi-
neering and architecture schools founded during the 19th century. As of 2007
it has 25 schools in Catalonia located in the cities of Barcelona, Castelldefels,
Manresa, Sant Cugat del Vallès, Terrassa, Igualada, Vilanova i la Geltrú and
Mataró. UPC has about 30,000 students and 2,500 professors and researchers

1.2 Institut de Robòtica i Informàtica Industrial

Appendix A

Frequently Asked Questions

A.1   How do I change the colors of links?

The color of links can be changed to your liking using:

```
\hypersetup{urlcolor=red},
```
or
```
\hypersetup{citecolor=green},
```
or
```
\hypersetup{allcolor=blue}.
```

If you want to completely hide the links, you can use:

```
\hypersetup{allcolors=.},
```
or even better:
```
\hypersetup{hidelinks}.
```

If you want to have obvious links in the PDF but not the printed text, use:

```
\hypersetup{colorlinks=false}.
```