Example of PhD Thesis with RoboticsLaTeX template

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Acknowledgements

Don't forget to acknowledge your supervisor!

To all the Master and PhD students of Robotics Engineering at the University of Genova.

Abstract

This is a very short and uninformative abstract.

Contents

List of Figures

Chapter 1

Introduction

Write the Introduction here...

Chapter 2

First chapter

Summary

Examples of commonly used commands.

2.1 Basic commands

This is a citation: Cox (1991).
This is an emphasized word: *global*.
This is a reference to another part of the thesis: Chapter 1.
This is an enumerated list:

1. first item.
2. second item.

This is an in-line equation: $x-$.
This is a word in quotes: "regular".

2.2 Equation

This is an equation:

$$\mathcal{U}_k(s_k) = \frac{P_k}{C_k} \tag{2.1}$$

This is an equation split over multiple lines:

$$\begin{aligned} x_k &= \mathcal{F}(x_{k-1}, u_k, w_{k-1}) \\ z_k &= \mathcal{H}(x_k, v_k) \end{aligned} \tag{2.2}$$

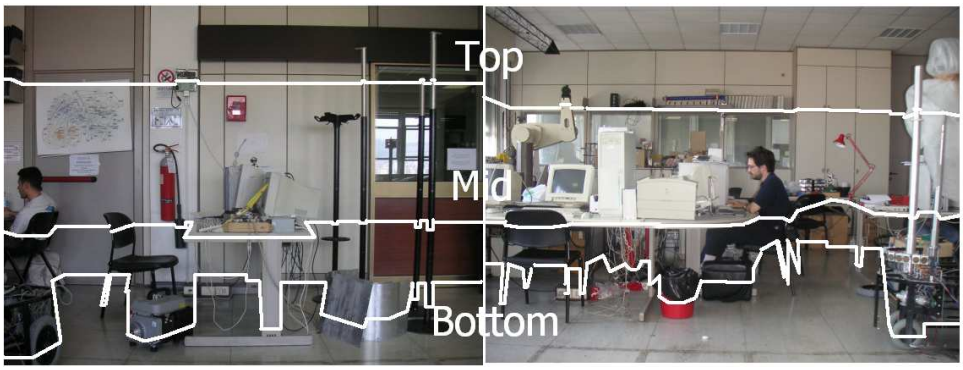

Figure 2.1: Scan profiles: *bottom*, *mid* and *top view*.

This is one hell of an equation:

$$\mathcal{Q}_l = \frac{d_l^2\sigma_\phi^2}{2}\begin{bmatrix} 2\sin^2\phi_l & -\sin 2\phi_l \\ -\sin 2\phi_l & 2\cos^2\phi_l \end{bmatrix} + \frac{\sigma_d^2}{2}\begin{bmatrix} 2\cos^2\phi_l & \sin 2\phi_l \\ \sin 2\phi_l & 2\sin^2\phi_l \end{bmatrix} \tag{2.3}$$

This is a reference to the Equation 2.2.

2.3 Figure

I add a figure.

This is a reference to Figure 2.1.

2.4 Algorithm

This is an algorithm:

Algorithm 1 Split & Merge [& Split]

Require: A scan s. A stack $\mathcal{L}$. A counter j. A threshold τ
Ensure: $\lambda \leftarrow \mathcal{M}(s)$, $j = 1, ..., |\lambda|$

$\mathcal{L} = \texttt{push}(s)$
$j \leftarrow 1$
while $\mathcal{L} \neq \varnothing$ **do**
  $\mathcal{L} = \texttt{pop}(s_{top})$
  $l_j \leftarrow \texttt{fitting}(s_{top})$
  $q_k = \text{argmax}_q \, \texttt{dist(l}_j\texttt{,q)}$
  if $\texttt{dist(l}_j\texttt{,}q_k\texttt{)} < \tau$ **then**
    $j \leftarrow j + 1$
    `continue`
  else
    $s_a \leftarrow \texttt{sub}(s_{top}, 1, k)$
    $s_b \leftarrow \texttt{sub}(s_{top}, k + 1, |s|)$
    $\mathcal{L} = \texttt{push}(s_a)$
    $\mathcal{L} = \texttt{push}(s_b)$
  end if
end while
$\{l_j\} \leftarrow \texttt{merge}(\{l_j\})$
$\{l_j\} \leftarrow \texttt{split}(\{l_j\})$

Chapter 3

Conclusions

Write the conclusions here...

Appendix A

Extra

Write here...

References

Cox, I. (1991). BLANCHE - An experiment in guidance and navigation of an autonomous robot vehicle. *IEEE Transactions on Robotics and Automation*, **7(2)**, 193–204. 2