Some Placeholder Title

A Master Thesis

written by

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The code for this project is available at
`https://github.com/vmstavens/in_hand_pose_estimation`

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Abstract

Some abstract text explaining the goal, methods and conclusion of the project.

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Acknowledgements

We would like to thank our supervisor Christoffer Sloth for the guidance he provided during the project.

Acronyms

acronym-abbr actorym-description.

glossary-multi-abbr glossary-multi-long.

Terms

glossary term glossary term description.

glossary-multi-long (glossary-multi-abbr) glossary-multi-description.

Chapter 1

Example section

This document demonstrate the use of figures, references, SI units, glossary, math notation, lists, and otherwise relevant formatting specifications. Paragraphs are typically separated using `\medskip`.

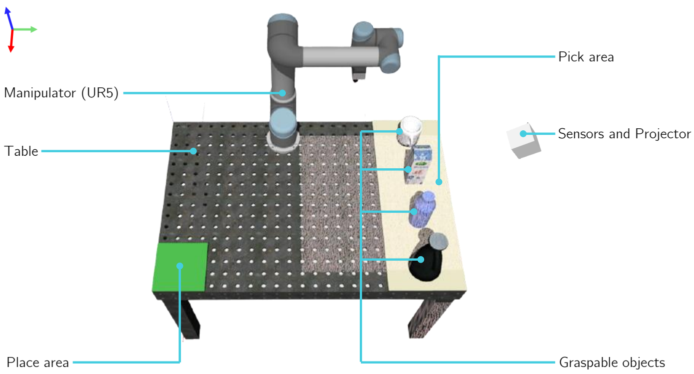

Fig. 1: An example image using actorym-description.

To exemplify math notation, consider the mapping between the joint configuration of a robot

$$\mathbf{q} = \begin{bmatrix} q_1 & q_2 & \cdots & q_n \end{bmatrix}^\mathsf{T}, \tag{1}$$

and glossary term, given as a homogeneous transformation

$$\mathbf{T}_B^A = \begin{bmatrix} \mathbf{R}_B^A & \mathbf{t}_B^A \\ \mathbf{0}^{1\times 3} & 1 \end{bmatrix}, \tag{2}$$

where $\mathbf{R}_B^A$ and $\mathbf{t}_B^A$ is the rotation and translation, respectively, from frame $\{A\}$ to frame $\{B\}$, denoted using a homogeneous transformation matrix $\mathbf{T}(\mathbf{q}) \in \mathbb{R}^{4\times 4}$ as a function of the joint configuration in (1), as described in [**robotics-book**].

Complex table/figure hybrids with aligned captions and functioning labels can be implemented using `minipage`, as shown in Table 1 and Fig. 2. Use \cite as a placeholder for citations.

Method \ **Pose**	1	2	3
Linear	18.97 s	20.35 s	22.85 s
Parabolic	13.66 s	14.93 s	17.33 s

Table 1: Trajectory durations of the interpolation-based trajectory generation methods.

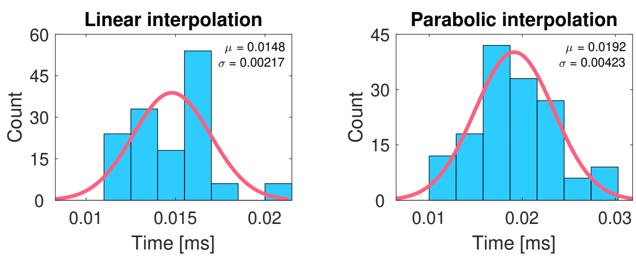

Fig. 2: Average planning time for each of the interpolation-based trajectory generation methods.

For numbers, units and ranges, the `siunitx` package is used, which allows to express a number 10, a range of 5 s to 6 s, or a SI unit of 5.73 ± 1.09 s. Inline row-vectors (with the transpose symbol) can be written as $\mathbf{a} = \begin{bmatrix} \mathbf{a}_p & \mathbf{a}_o \end{bmatrix}^\mathsf{T}$, where as parentheses can be automatically written using (a, b) or $\left\{\frac{a}{b}, c\right\}$. Also, shorthands for $\mathbf{A}^{-1}$, $\mathbf{A}^{\dagger}$and $\mathbf{A}^\mathsf{T}$.

Chapter 2

Introduction

Subject matter terms are addressed with `\gls{glossary-label}` like so glossary term.
Acronyms are addressed with either with their long equivalent `\acrlong{gls-label}` which gives actorym-description or the short equivalent `\acrshort{gls-label}` which gives acronym-abbr.
Subject matter terms can also be multi structure `\gls{glossary-multi-label}` which gives glossary-multi-long (glossary-multi-abbr) (see terms and acronyms above).

Chapter 3

Litterature Review

Chapter 4

Problem 1

4.1 Introduction

Here we write the introduction for problem 1.

4.2 Related Work

Here we cite the related work by `\cite{source-label}` like this [1]

Chapter 5

Problem 2

Chapter 6

Discussion

Chapter 7

Conclusion

Bibliography

[1] Quigley, Morgan et al. "ROS: an open-source Robot Operating System". In: *ICRA Workshop on Open Source Software* 3 (Jan. 2009).

Appendix A

Appendix A Title