

**Title**

**Your Name**

A thesis presented for the degree of ...  
Department of Physics, Graduate School of Science,  
The University of ..., Country  
July 21, 2023

# Abstract

[illegible]

# Contents

List of Symbols	3
Glossary and Abbreviations	4
1 Introduction	5
2 asdf	6
A Asdf	7
A.1 Asdf . . . . .	7

# List of Symbols

$\mathbb{R}$	Real number
$\mathbb{C}$	Complex number
$\delta_{ij}$	Kronecker delta
$I$	Identity matrix
$\mathcal{H}$	Hilbert space
$\mathcal{O}$	Big-O notation
$i, j, k, l; p, q, r, s$	Indices

# Glossary and Abbreviations

ML	Machine learning
TN	Tensor network
MPS	Matrix product state
SPSA	Simultaneous perturbation stochastic approximation
RKHS	Reproducing kernel Hilbert space
SVM	Support vector machine
SGD	Stochastic gradient descent

# Chapter 1

## Introduction

## Chapter 2

asdf

# Appendix A

## Asdf

### A.1 Asdf