The title of my thesis

Any short subtitle

Bjørn Ivar Teigen

Thesis submitted for the degree of
Master in Robotics and intelligent systems
60 credits

Department of Informatics
Faculty of mathematics and natural sciences

UNIVERSITY OF OSLO

Spring 2017

The title of my thesis

Any short subtitle

Bjørn Ivar Teigen

The title of my thesis

Abstract

Contents

List of Figures

List of Tables

Preface

x

Part I

Introduction

Chapter 1

Background

Writing is about structuring your thoughts, not about being poetic. Writing is good for your work
        enables you to collaborate with others
        Writing has parallells to research
    Convolutional neural networks
    Explained to a family member:
    Convolutional neural networks consist of artificial neurons that are connected to each other. The network consists of several layers placed on top of each other. The layers are connected in such a way that each neuron is connected to a square of neurons in the layer below it. This mimics the way real neurons are connected to the sensory cells in the retina of the eye.
    Explained to a fellow student:
    The network consists of several layers placed on top of each other. The layers are connected in such a way that each neuron is connected to a square of neurons in the layer below it. The weigths from each square are the same, so that the number of parameters for each layer is proportional to the size of the square and the number of neurons in the receiving layer. This reduces the number of parameters compared to a fully connected network.
    Explained to my professor:

Chapter 2

Writing course

How to edit:
1. Why am I reading this?
2. Where do I fall off?
3. Does everything make sense? Is it logical?
4. What questions pop up when reading?
5. Typos and words

2.1   Is AI dangerous?

We're witnessing a revolution in the field of AI. Some argue that the AI's will one day surpass our human intellect, become conscious, and dominate the world. Others say that is impossible.

A computer program is just a set of 0s and 1s, interpreted by a computer in a deterministic way. It's fundamentally no different from any other machine in the ways they function. What seperates a computer from other machines are the fact that they process information in a completely general sense. Any formally defineable process, that is any process we can create a mathematical model of, can be simluated by a computer. It follows, that in order for the human mind to be un-simulateable, it has to be impossible to formally model the brain.

The brain is a complex web of neurons and other cells, and on the cell level we have a pretty good understanding of how it works. We can simulate the processes in a computer. There is no indication that any kind of brain cell breaks the known laws of physics, chemistry or biology. Thus, in order for the mind to be un-simulateable, there has to be some way in which the brain cells are connected, or in the way they communicate, which is impossible to model. This seems completely implausible to me, and in case I'm correct, it should be possible to simulate a human mind. That does not mean it's a simple task!

2.2   Machine learning

2.2.1   Reinforcement learning

Autonomous agents

Reward functions

  some math

2.3   Reinforcement learning

RL is the process of optimizing the behaviour of a system based on experience obtained through trial and error. [**boka jeg fikk av kai**]

2.4   Motivation

Part II

The project

Chapter 3

Planning the project

Part III

Conclusion

Chapter 4

Results