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# Assignment 1: MLPs, CNNs and Backpropagation

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## Abstract

Here is my abstract

## 1 Introduction

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## 2 MLP backprop and NumPy implementation

### 2.1 Analytical derivation of gradients

### 2.2 NumPy Implementation

## 3 PyTorch MLP

## 4 Custom Module: Batch Normalization

### 4.1 Automatic differentiation

### 4.2 Manual implementation of backwards pass

## 5 PyTorch CNN

## 6 Conclusion

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