11/7/2023

MET CS 767 Assignment 3: CNN’s

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Applied machine learning—after architecture selection—is largely a process of selecting parameter values. This requires an understanding of the parameters, and a systematic approach to dealing with parameter values. One purpose of this assignment is to give you experience with this. The other is to give you practice creating a deep convolutional neural network.

The overall instructions are the same as in prior assignments.

# Modification of code to attempt improvement (2 page max)

Copy the implementation [here](https://colab.research.google.com/drive/1Yg-NXKlYzfvv9jI2MCxWZErovpR57_YC?usp=sharing) to your Google drive. Systematically modify the parameter values, attempting to improve the output, and report the results as below. Since the accuracy of the given implementation is already high, consider reducing the size of the CIFAR training set—or substituting parts of it so that the baseline implementation leaves more percentage room for improvement. If it adds to clarity, describe and explain changes that make the result worse.

## 1.1 Description of changes and reason they *could reasonably be* an improvement (at most one page)

your response replaces this

## 1.2 Comparison of the result with the original output, with explanation

your response replaces this

## 1.3 URL of your Colab code

your response replaces this

### >>AI generation for section 1 (or check: I did not use AI generation here \_\_). Please collapse this.

PARAGRAPH DESCRIBING YOUR VALUE ADDED TO AI-GENERATED MATERIAL

Your response replaces this.

YOUR PROMPT SEQUENCE

[1] Your first prompt replaces this.

[2]

Your response replaces this.

# 2. Your CNN Application (3 pg max)

## 2.1 Give 2-4 requirements for an application that you will implement

## These describe *what* functionality your application will provide for the user, including the nature of inputs and outputs. This section should not include *how* you will design or code the application.

your response replaces this

## 2.2 Sample I/O

## Give three varied input/outputs pairs for your implemented application.

your response replaces this

## 2.3 The CNN Architecture

## Show your architecture in one or more annotated figures.

your response replaces this

## 2.3 Key code

## Provide snippets of the essential core code of your implementation.

your response replaces this

## 2.4 URL of your Colab code

your response replaces this

### >>AI generation for section 2 (or check: I did not use AI generation here \_\_). Please collapse this.

PARAGRAPH DESCRIBING YOUR VALUE ADDED TO AI-GENERATED MATERIAL

Your response replaces this.

YOUR PROMPT SEQUENCE

[1] Your first prompt replaces this.

[2]

Your response replaces this.

# References

You are welcome to use the work of others—but only if you clearly indicate what work is theirs. Failure to do so is plagiarism. Each of your references should occur within the text. For example, [1] should occur below *and* within the body of your response at the relevant location. Include specific sections of the textbooks if used directly.

[1] your first reference replaces this

[2] …

# Evaluation



# Appendix 1

…

# Appendix 2…