

Milestone deliverable Review Report

Deep Funding Round: 3

Project code: DFR3 - NEW9

Project title: Customizable Code Assistant

Milestone number: 2

Milestone deliverable:  Customizable Code Assistant

Date: 29 Dec 2023

Status: Accepted

Feedback (Why accepted, why rejected?): The deliverable in this milestone is as follows:

1. A web based Demo of our Fine-tuning Maths calculator:

In this milestone, the best practices in fine tuning code LLMs in a more interactive and applied way was adopted. The application is divided into two parts

- Compute Optimal LLM Training
- Compute Optimal LLMs Fine Tuning

Compute Optimal LLMs Training

This section allows users to interact with the main computing factors of the scaling law($C=tao*T=6*P*D$) in a highly customizable manner controlling the hardware setup , training time, Model parameters and dataset tokens. Based on these factors, it is approximated if the compute provided is optimal for performance given the selected model and dataset.

Compute Optimal LLMs Fine Tuning

Here, the optimal parameters for fine tuning code LLMs for optimal perplexity loss in terms of fine tuning parameters and baseline LLMs choices are investigated. Case specific graphs and variables are provided for the user to adjust and interact with. This is a more specialised case as Fine-tuning is highly task and data specific, so to give meaningful estimates while keeping the application user friendly and accessible, the specific use case was focused on.

The above deliverable can be found here:

<https://customizable-code-assistant.streamlit.app/>

If rejected, suggested changes:

- I suggest to