Memorandum on LLaMA2 Fine-Tune for AI Startup

Introduction

This is a memorandum on the fine-tuning of LLaMA2 for the purpose of creating a competitive AI startup. The goal is to gather deep technical insights and intuition on the nature of fine-tuning in relation to growing a flourishing business in the age of AI.

It is my belief that an important memo must encapsulate the essence and importance of an subject matter, and apply it's principle to a well researched and thought out formulation of the future, such that these principles will be "of note" in future decision making and strategical planning.

To this effect, I leverage the book, *"Competing in the Age of AI"*, which provides many case studies in the nature of AI firms; it summarizes the economic landscape of AI, teaches the basic fundamentals of business, and additionally offers many a predictions for the course of AI. The business model and operating model of the LLaMA2 fine-tune will be contextualized in the framework set forth in the book. I will be providing a brief analysis in the practical, actionable, and build-able applications that can arise from a LLAMA2 fine-tune, to the purpose of formulating a workable business and operational model.

Technical Details - Insight and Intuition

This implementation of a LLaMA2 fine-tune heavily leverages the existing AI/ML ecosystem: Kaggle for datasets, Colab for training, Meta and HuggingFace for models, Github for repository, Replit for presentation, and the OpenSource community and OpenAI for code.

The process and the pipeline itself is self-devised and manually implemented.

- The training data is sourced from Kaggle and synthetically populated with OpenAI ChatGTP-4
- Fine-tuning is then executed on Colab using OpenSource code
- The resultant model is uploaded to HuggingFace
- Inference is used to generate the new fine-tuned data
- Evaluation is performed through eye-test and a haphazard benchmark

The exercise leaves the impression of very possible and potential value add. Business scale can be achieved through the automation of manual pain-points through the application of applied software engineering. Business scope will require an concerted effort to understand customer data on a case-by-case basics, but can be formalized leading to automation. Business learning is achieve through an attachment and mutualism to the AI community at large.

Analysis - What We Can Build

LLaMA2 fine-tune is a stepping stone for better and more advanced AI systems. I believe fine-tuning is but a very narrow use case, and one of many methods, to extract useful information from existing foundational models. However, I also believe all these techniques build towards ever more performant systems.

To this end, I propose building LLaMA interns. A fully realized product will be able to perform any knowledge based white-collar work - granted a formalized and automated way of processing domain specific data and an automated method for creating a fine-tune for any specific task. People may have had unfounded fears about losing their jobs, until now, were I propose building an actual system to replace everyone with AI in the business context.

Forward Thinking

A mastiff is a shepard dog... we are herding llamas.

As and startup, our best bet is to set trends that will ultimately continue to propel us... always keep ahead and make sure that the tools that we do leave behind future accelerate our destination.

To the end of what makes a better life. Work to Live, or Live to Work.

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build-able, and actionable

nature of the LLaMA2 fine-tune in the context of the business landscape of AI.

Provide and analysis of the LLaMA2 fine-tune in the context of the business landscape of AI.

is then compared with that of the subject matter. In this case, the subject matter is the nature of AI startups.

The framework set forth in this book

is used to guide the formulation of this memo.

with that

of the subject matter. In this case, the subject matter is the nature of AI startups.

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My Proposal

To build an LLaMA intern...

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for some long-term predictive insight

using this insight, i will be able to write a better memo

Startup is a business that is designed to grow fast

We as a startup must put AI first in designing our company...

operating architecture, and building the right skills, capabilities, and culture to drive an increasingly digital operating model

How does our company flourish in the age of AI?

no field will remain untouched by AI

universal engine of execution

leverage the work done by AI, who work in realtime in their runtime.

AI woven into the fabric of the firm

Increasing levels of digitization, analytics, and AI/ML can dramatically improve the scalability of a business

build a company based on AI/ML foundations

full potential opportunities and challenges

"build upon existing expertise"

â€œtarget new processes to digitize and enable, through analytics and AIâ€

different kind of company -

â€œchanging the way it gathers and uses data, reacts to information, makes operating decisions, and executes operating tasks.â€

â€œAI for strategy and leadershipâ€

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business model - creates and captures value operating model - delivers value

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How to be a competitive company in the age of AI. landscape of business + nature of companies

Memo, short for something to be remembered.

How is this more important than anything else that needs to be remembered.

This is a fine-tune of the LLaMA2 model on a dataset of interview questions. The goal is to create a model that can generate interview answers given a question.

Setup Instructions (Guide)

Data Generation

one thing to note is that one can use GPT4 or other LLMs to generate synthetic data. This is a good way to generate a lot of data for fine-tuning. The intuition here is that data modeling and structuring the data is important if one wants to leverage existing training pipelines.

Training Run

The executable code is in a colab notebook located in this repo. 1) run training set

Analysis | Benchmarking

Details

Benchmarking

Analysis

Long term thinking about the world of AI and intelligence

Artificial Intelligence in the age of AI

How does this relate to the current business context

<> landscape of business nature of companies <> Balance Hype/Anxiety promised benefits potential disruptions - job loss, company failure, fragmentation of society

AI competition - scale faster - innovate faster - personalize better

AI, analytics, networks + automation

strategy + operating model

AI first digital foundation

rag workflow - as advanced prompt engineering

techniques to stuff the context with as much useful information as possible as it makes token prediction

making money in the AGI space finding a good life finding a good community making things feel good good vibes

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The most important challenge that face a budding AI company is being able to align our own company values to that of the changing AI landscape. We are a seed; an actual germinating bud amongst a flourish of other lifeforms.

Mastiff AI A Mastiff is a large powerful dog A shepard dog

Mastiffs were originally bred as war dogs, hunting dogs, and guard dogs. They were used to protect land, livestock, and other property, and can take down humans and large animals. Today, they still work alongside people as police dogs, military dogs, and guard dogs

We must adopt an actual Mastiff

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love, career, life & work that enables us to enjoy the range of human experience

i need something to click for me I need a way to allow LLM fine-tunning to connect to the bigger picture of life. The only way I know how to do this is to really search for a connection here. Web - understanding the web of life

Giving a voice and a perspective to AI Adding that to the lexicon of the foundational models

Humor and Humility

fun, excitement, mental stimulation being aware, being present, being mindful

How does AGI help create a better world? More important how does AGI help spread the vibe of a better world?

LLMs as a stepping stone to AGI.

atmosphere and Benvironment - business climate preparation

personally i can not pursue them both

i can only choose to pursue one thing we can contemplate and plan things out in the long term as far as our predictive capabilities

the other path is something that not many have done it looks more promising because i can beak new ground but all the same people have done it, just not currently

the road is equally as i contemplate them not one step has been taken yet go and take one way but it be a decision that can't be taken back

Work and career is a deeply personal things that affects one's whole life - taking things seriously is important

this will be remembered i will tell of this story i will take the decision that is less traveled that will make things interesting

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Purpose & Meaning - When training an LLM, having a clear purpose and measurable metrics of success are important.

What specific skills do you want the model to acquire?

How will you evaluate if training is effective?

Aligning training objectives with end goals gives meaning and direction.

Making History - Training a state-of-the-art LLM like LLaMA2 provides an opportunity to push boundaries in AI. The insights from analyzing model behavior during training could open new frontiers in understanding language and reasoning.

Community - Leveraging public datasets, code bases and the broader AI community support during training is key. More eyes on a problem reduces the risk of blind spots.

Feedback from collaborators

Fulfillment - While impressive benchmarks motivate, fulfillment comes from enjoying the journey of inquiry and discovery in training. The creative process of designing prompts, datasets and experiments can be profoundly fulfilling.

Being fully present and mindful while training focuses one's attention on model patterns as they emerge. Rushing training risks missing key insights revealed in each iteration. Patience and presence enable learning.

This is a very limited applications of AI/ML in the grand scheme of things. But it is a good way to get started.