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GEN AI PROJECT PHASE 1 SUBMISSION DOCUMENT

Phase 1: Proposal & Idea Submission

1. Project Title:

Startup Pitch Generator using Generative AI (LoRA Fine-Tuned GPT-2)

2. Domain

Generative AI | NLP | Text Generation | Startup Ideation

3. Problem Statement

Coming up with a compelling startup pitch isn't always easy — it takes creativity, domain insight, and a knack for structured storytelling. But not everyone has the time or tools to brainstorm effectively. Sometimes the ideas just don't flow, or the pitch feels **flat** and **repetitive.**

That's where this project comes in. I've fine-tuned **GPT-2 using LoRA (Low-Rank Adaptation)** to create a Generative AI tool that can help turn simple prompts or themes into complete, creative, and relevant startup pitches. It's designed to make the ideation process faster, easier, and way more accessible — whether you're an aspiring founder, a hackathon enthusiast, or just someone playing with startup ideas.

4. Proposed Solution

4.1 Implementation

This project implements a startup pitch generation system by fine-tuning a GPT-2 language model for efficiency using **Low-Rank Adaptation (LoRA)**. The system:

- Accepts a short description, theme, or idea seed as input.

- Uses a fine-tuned model to generate full startup pitch texts (including problem, solution, market, and innovation).
- Output results are tailored toward investor pitch styles or elevator pitches.
- Enables rapid ideation or support for hackathons, entrepreneurship programs, and startup events.

5. Objectives

- To build a working prototype that generates startup pitches from a user-provided prompt.
- To fine-tune GPT-2 using LoRA for efficient training and adaptability.
- To explore data curation strategies that reflect real-world startup structures.
- To create a basic interactive interface for testing and showcasing results.

6. Expected Outcome

- A text generation model that can produce relevant and engaging startup pitch content.
- A repository of generated examples across diverse startup domains.
- An interface (CLI or web-based) for users to input a theme and receive full-length pitch text.
- Optional: Support for custom pitch formats (e.g., one-liner, problem-solution-summary).

7. Tools & Technologies to be Used

- Python (main programming language)
- HuggingFace Transformers + PEFT (LoRA fine-tuning)
- GPT-2 (base pre-trained language model)
- Google Colab / GPU (training and inference)
- PyTorch (deep learning framework)
- Optional: Streamlit / Gradio for interactive UI

8. References

- HuggingFace Transformers Documentation: [Hugging Face - Documentation](#)
- PEFT LoRA Docs: [GitHub - huggingface/peft: 🤗 PEFT: State-of-the-art Parameter-Efficient Fine-Tuning.](#)
- OpenAI GPT-2: https://openai.com/research/gpt-2
- Similar Open-Source Projects on AI-based Pitch Assistants on GitHub
- Papers on Parameter-Efficient Fine-Tuning for NLP (LoRA)