Lab 5: LLM Pitch (25 pts)

OIDD 2550, Professor Tambe

A. Overview

Lab 5 should be completed in groups of 3, 4, or 5 people. You will have the opportunity to form and submit your own group. Otherwise, you will be assigned to one.

The rapidly growing capabilities (and falling prices) of Large Language Models are leading to a new "gold rush" in LLM applications. The objective of this assignment is to generate a pitch deck presentation and a pilot for a new LLM-based business venture, and it must include an illustration of a proof-of-concept (i.e. prototype). To build this proof-of-concept, you should use any of the tools we have used in class, such as Google AI Studio or GPT Builder from OpenAI.

A live usable pilot is required to complete the project, and extra points will be awarded to the team with the best prototype in each section.

B. Deliverables

Milestone Deliverables

To prevent last-minute divide-and-conquer approaches and encourage thoughtful development, this project will be broken into milestone deliverables:

1. **Milestone 1**: Brainstorming sheet submission - Initial ideas and industry selection
2. **Milestone 2**: Value proposition and market analysis plan
3. **Milestone 3**: Ethical and regulatory risk assessment
4. **Milestone 4**: PRESENTATION (DEC 1 and DEC 3)
5. **Milestone 5**: Final submission and completed prototype

Presentation format

The fourth milestone includes a slide deck to be submitted on Canvas and an in-class presentation. To accommodate more focused feedback, we will use a modified presentation format:

- Groups will be divided into smaller presentation clusters
- Each group will have 6-10 minutes per presentation
- After all presentations in a cluster, students will provide intensive feedback for all ventures in the cluster

This will be split across two dates. See schedule for presentation dates (early December).

In your presentation, you should conceptualize a new LLM-based product or business model that can have a significant impact on one of the following industries:

- • FINANCE & INVESTMENT
- • MEDICINE & WELLNESS
- • HIGHER EDUCATION
- • LAW ENFORCEMENT
- • ENTERTAINMENT
- • REAL ESTATE & CONSTRUCTION
- • R&D AND SCIENTIFIC INNOVATION
- • LEGAL SERVICES
- • SOFTWARE DEVELOPMENT
- • OTHER

No more than two groups from each section will be allowed for each industry (first come, first serve).

You might start by identifying a particular role in the industry and dive into how LLM technologies can lead to productive redesign of these jobs. However, you should also show that you understand what the tradeoffs are, and what the potential weaknesses are both technologically and in the marketplace.

Your final deliverables should include screenshots of a working prototype and its output, along with a description of how it was built and key decisions made. Using tools from a large language model provider, create an application that demonstrates your product or service concept. The prototype doesn't need to be robust, and you don't need to demonstrate it in class, but it should clearly show how your solution would work and provide value in your chosen context. Feel free to use tools like DALL-E or PowerPoint to create attractive UI mock-ups that enhance your presentation.

Your deck should address the following topics, along with any additional elements relevant to your project. These guidelines are not exhaustive, and you may organize them in any order that best presents your concept. Feel free to emphasize aspects particularly important to your specific context.

Value Proposition and Market
1. How large and attractive is the market opportunity? What value will you provide your customers?
2. Who is the ideal customer? How many of them are there?
3. Is this product meant to augment or automate an existing job or task? If augment, what parts of a job are you changing? How should adopters redesign jobs that are affected for good performance? How should they train workers?
4. Include at least one user interview or survey to validate your market assumptions

Solution and proof of concept

1. Show us your prototype!
2. What are the potential challenges from a product design/UI perspective? What can you do to get your customers to adopt?
3. Include evidence of user testing or feedback on your prototype

Business model (very important!)

1. How will this product be priced and how will it be sold?
2. How will you get your product in front of your market? What are the relevant sales channels?
3. Who is the competition and how will you differentiate your product relative to this competition? How will you retain an advantage over future competitors?
4. How will you prevent any potential value that is created from being extracted by suppliers (e.g. providers like Open AI) and/or customers?
5. Include a competitive analysis matrix showing your positioning against at least 2 competitors.

Ethical considerations

1. What are the ethical challenges that can arise from your product? How will you address these challenges?
2. Are there important intellectual property considerations that arise from your proposed use-case? How will you address them?

Regulatory risk

1. What are the risk factors related to regulatory concerns, such as those concerning data privacy or loss of jobs or intellectual property?
2. How will you anticipate and address future regulatory risk, especially regulatory risk that can influence your ability to grow your business?

The slide deck should be submitted through Canvas. Only one person per group needs to submit. (Please convert it to a .pdf before submitting.)

C. Grading Rubric

Grades are out of 25 points and are composed of the following elements:

- Total project (25 pts):
    - Presentation (5 pts)
    - Quality and clarity (5 pts)
    - Go-to-market strategy and defensible position (5 pts)
    - Prototype viability and user testing evidence (5 pts)
    - Ethical and regulatory risk assessment (5 pts)

Extra points will be awarded to the project in each section with the best prototype!

Please note that high standards will be applied when grading elements like the go-to-market strategy or product viability, as these areas caused the most point deductions last year. Consider carefully your pricing strategy, market demand at your price point, competitive advantage, and other key product factors. If your business model isn't viable, revise your product concept or design. This aspect requires substantial research beyond initial prototype development—that's why you're working in groups, so allocate sufficient time for these critical components!