Problems:

1. Everyone has used AI in one form or another, but very few people understand how it works.

2. Why did LLMs explode in popularity seemingly out of nowhere?

3. Can AI continue improving at the pace that AI companies are promising?

4. What are AI's limitations, and what is holding it back?

5. How can you use AI, and when should you use an AI algorithm versus a traditional one? (if I have enough time)

1- we fear what we don’t understand:

The primary goal of this research is to demystify AI, making it accessible to readers of all levels. AI has been very misunderstood, leading to a lot of anxiety, and the hype-driven narratives of companies seeking investment didn’t help this issue. We will define AI and track its evolution. We will build simple AI models from scratch, starting with mathematical equations, then translating them into a programming language, and constructing our own models along the way.

2- the LLM boom why it didn’t happen sooner ?

By going back to the start and tracking AI's evolution, we will see why LLMs exploded in popularity now and what brought them to this point.

3- Can Progress Match the Promises?

By understanding how AI works on a fundamental level and tracking its evolution to see what makes AI improve and how, we will be able to deduce whether AI can continue evolving at a rapid pace or if it will reach a stagnation point.

4- AIs limits and bottle necks

Just like the previous point, after learning how AI works and how it evolved, we will see what is holding it back from reaching its true potential and what can be done to mitigate bottlenecks as much as possible.

5- choosing the right tool for the right job

This one is personal. I've been very interested in AI and how I can add it to my already existing projects. In this chapter, we will delve into how and when we should use AI in our already existing projects in a safe, efficient way.