Awaiting the AI-era internal combustion engine

“The internal combustion engine is not just a mechanism, it is a force that has turned the world upside down, accelerating progress and changing the course of history.”

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Abstract

This article draws a compelling analogy between the invention of the internal combustion engine (ICE) in 1885 and the current state of artificial intelligence (AI). Just as the ICE revolutionized transportation, industry, and warfare by synthesizing existing knowledge and technologies into a transformative breakthrough, the author argues that AI is still awaiting its "ICE moment." Despite significant advancements in large language models (LLMs) and other AI technologies, the article critiques the field for focusing on incremental improvements rather than achieving a foundational leap. Key limitations of current AI systems are highlighted, including their inability to discover new knowledge, transition from artificial general intelligence (AGI) to superintelligence (ASI), and communicate effectively beyond human language constraints. The author also critiques the AI industry for lacking practical engineering and design expertise, leading to underwhelming applications and interfaces. The article concludes with a call for innovation and experimentation, suggesting that the AI community must move beyond refining existing technologies to invent the transformative "AI ICE." For observers, the advice is to stay tuned, as the breakthrough, when it comes, will be unmistakable and revolutionary.

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1. 140 years ago

It is 1885 and two little-known German engineers Gottlieb Daimler and Wilhelm Maybach invent a lightweight gasoline carburetor engine. At that time, the steam engine had already existed for 100 years. The very idea of an internal combustion engine was more than 200 years old at that time. Various versions of the engine had already existed for several decades. Thermodynamics as a science has existed for several decades. Steamships have been sailing and steam locomotives have been running for a long time, the London underground has already been operating. Maxwell's equations have already been formulated, the telegraph and telephone have been invented, and only 10 years remain until the invention of radio. All the necessary sciences, technologies, materials, engineers and industries exist. But the internal combustion engine (ICE) does not exist. No one had correctly put together the existing knowledge, ideas, materials and devices before 1885. Everything will still be after the ICE - cars, planes, conveyor and panzers. Everything will change after the ICE moment, the way humanity produces, consumes, moves and fights will change.

2. ICE moment for AI

The author takes the liberty of claiming that the internal combustion engine for AI has not yet been invented. What the industry is doing now is similar to improving the steam engine. Those who disagree can try to answer several questions. How will current LLMs claiming the role of AI search for new knowledge? How will the transition from AGI to ASI occur, since it is impossible to learn ASI by consuming AGI-level texts? How will two ASIs be able to communicate with each other using limited human language tokens?

Not only do we lack a universal engine, we don't even understand what to do with what we already have. The idea of a chat as a universal interaction interface was simple, obvious and great. But that's where it all ended. The OpenAI application platform, autonomous agents and so on did not take off and will not take off. Perhaps it will not work because there is no suitable foundation for this yet. Or perhaps because large companies do not have the necessary specialists, and small businesses do not have the resources to test and implement their ideas. It would seem that a person always and everywhere needs something that brings money (or at least allows you to save money), entertains him (in the broad sense of the word) and does the work that a person is not able to do due to complexity or volume. And once again we see how an agent orders tickets. It's so funny that I want to cry. Perhaps LLM companies have too many scientists and programmers and not enough engineers and designers who will assemble from what is there something that works on the one hand, and is in demand on the other.

3. What to do?

If your work is related to neural networks, then you can try new things, new models, new training methods, new datasets, you can combine anything with anything. Maybe your last name is DAImler or MAIbach and AI ICE will be your invention. For the rest, the author has one simple answer to this question - just wait. You will not be able to miss the invention of ICE. Everything is just beginning. It will be interesting. Stay tuned.