



CHATGPT: EVERYTHING, EVERYWHERE, ALL AT ONCE


Generative AI is an umbrella term for ChatGPT-like systems applied to different modalities besides text, such as images and music. Despite several shortcomings, ChatGPT stands out due to the depth of answers and logical reasoning. The magnitude of its societal implications will likely overshadow even the smartphone. Yes, we have had machine learning before, but this time we feel that, by following the trajectory paved by ChatGPT, Artificial General Intelligence (AGI) is within reach (predicted to occur by 2040).

The transformer, originally introduced by Google to tackle language translation, is the magical neural network behind this marvel. Feeding it with the entire Wikipedia, books, and the entirety of the scrapable internet, creates a rich representation of each word while taking contextual information into account. The largest current performance gain is then due to the technique known as Reinforcement Learning from Human Feedback.

The so-called scalability hypothesis suggests that the architecture of neural nets is already sufficient and we only need to enlarge and feed them with more data. Even if this assumption holds, the costs and computing power for training such models increases hyper-exponentially, which is unsustainable. In any case, chip manufacturers, such as NVIDIA, Intel, and AMD, are clear beneficiaries of this AI boom.

Generative AI targets mostly white-collar jobs, such as graphic designers, programmers, copywriters, and lawyers, contrary to predictions from ten years ago, that it would go bottom up. To replace a worker in a factory with a single-purpose robot that costs ten thousand euro is simply ineffectual. Additionally, the physical world is "messy", open, and unpredictable, which imposes difficult requirements on dexterity and robustness. On the other hand, generative AI deals purely with information flows. Training such a model is expensive, but when done, it can be scaled to millions of tasks and users with operational costs in a sub-cent range per call.

Jobs won't perish overnight, but the productivity race is on. As Sam Altman, CEO of OpenAI, the company behind ChatGPT stated: "The marginal cost of intelligence and energy will rapidly go towards zero." To stay competitive, we must embrace this technology in the form of copilots and assistants. Dozens of companies emerge every week with generative AI at the very core of their technological stacks, disrupting the status quo in many industries. One such company is Cequence, where I work as CSO. We keep a tight loop on what's happening in AI with the approach characterized by fast prototyping and integration applied to contract management.


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The Internet is an intricate ecosystem of websites, with a hierarchy determined by Google rank and fueled by advertising revenue. With the novel "ask me anything" approach, instead of a list of websites with fractional information, the system synthesizes a final answer. The consequence is more centralization of not just revenue, but also control and trust. Besides other companies that develop products

Over the last three months, you couldn't have avoided seeing some cryptic names, such as ChatGPT, and the resurrection of a once-archaic term: Artificial Intelligence (AI). ChatGPT belongs to a family of Large Language Models, which can, for instance, generate a poem, explain a complex program, or interact as a chat bot - all of this in plain English.

comparable to OpenAI (e.g., Google's Bard), we also need decentralized, open-source initiatives to provide fully transparent intelligence essentially as a public resource. More dystopian suggestions are to embrace a netocrat-consumtariat society¹, where a handful of AI companies, that control the market are heavily taxed. These resources are subsequently distributed to citizens as universal basic income to offset job loss.

Disruptive tech has long clashed with governments and societies regarding morals and public good. Our relationship with technology is schizophrenic: on one hand, we welcome anything that helps us save time and money; on the other, from the position of cognitive and creative superiority, we cheer and even laugh when technology fails. This perception asymmetry causes a single malfunction (e.g., a crash of a self-driving car) to blow out of proportion.

In the field of generative AI we can expect lawsuits and strong opposition - some justified (e.g. artistic work used for training without consent), others purely defensive. The technology moves so fast that any attempt to regulate it at a finer level is destined to be outdated the moment it comes into effect. In the EU, generative AI is already the third recent technological wave the EU is set to miss out on (after machine learning and crypto). Rather than promoting businesses

to innovate, the EU is yet again following its old playbook to become the regulatory leader - a title that one assigns to themselves, if everything else is taken.

Of course, we should be careful. Governments must require platforms, regardless of the domain, to comply with strict privacy and security standards. If an AI system makes an autonomous action, then safety and accountability need to be addressed as well. On the other hand, trying to define universal content moderation policies or a set of biases that the system must avoid during its training phase is practically unachievable.

Generative AI, as a technological and societal revolution, will enable new industries and productivity levels never seen before. The paradigm has shifted and it is going to change everything. Just like in the movie "Everything, Everywhere, All At Once" - a nice metaphor of what we are experiencing: supercharged radiant models producing combinatorial orbits of future meanings. All of this crowned by the transition from description to generation and the actual prescription of reality. The future might be bright, after all, if we play it right.

¹ Netocracy refers to a perceived global upper-class that bases its power on a technological advantage and networking skills, while consumtariat is the new underclass, whose main activity is consumption, regulated from above.