

AI Market Evolution Report

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Purpose: Vision for AI development in the next 5 years

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Trends and Opportunities

Given the significant impact of AI, it's likely that the market will evolve towards the commoditization of AI technologies, both through the emergence of open-source models and through "wrapper" applications that will find themselves in a competitive red ocean among themselves and with large companies. Rather than entering this red ocean, Axiologic Research's strategy is to bank on the commoditization of AI in the form of open-source applications, somewhat in the same way Linux has managed to commoditize operating systems. The commoditization of AI represents a transformative shift in the technological landscape, providing unprecedented access to AI capabilities.

The integration of AI into existing platforms presents both promising opportunities and significant challenges. The current use of AI for specific tasks, such as grammar assistance or smart composition in applications like browsers and office suites, is just the beginning. Advanced integration without altering the user experience remains complex, as seen in limited results from AI-powered search queries in browsers. The separation of chatbots for customer support from software's main functions underscores the challenge of creating seamless AI integrations. The future hinges on developing AI integrations that transcend basic enhancements, enabling AI to deeply interact with and control software, thereby transforming tools into intelligent partners. This requires fundamental changes in operating systems and development methods to fully embed AI within applications, enhancing user interaction and software efficiency.

The evolution of AI, drawing parallels to the early days of the Internet, holds transformative potential despite scepticism and fear. Like the Internet reshaped our lives, AI promises a similar trajectory, fostering cautious optimism amidst potential risks. AI agents promise a paradigm shift in software interaction, moving from static, task-specific applications to dynamic, context-aware agents. This shift, long hinted at but hindered by technological limitations, is now feasible thanks to advancements in AI and machine learning. Future AI agents, blending local and cloud-based services, will offer personalized, adaptive experiences, continually evolving with users. This marks a departure from traditional software, necessitating new approaches to data structures, user interfaces, and interaction paradigms.

Collaborative AI Spaces

We believe that the concept of intelligent but secure ecosystems for agents and human collaboration represents a significant shift in digital interaction. These ecosystems, centred around AI agents and conversational interfaces will facilitate natural dialogue, simplifying complex tasks. The ability to instantiate multiple agents with diverse expertise underscores a strategic approach to problem-solving, enhancing collaborative strength. Integrating with external agents broadens functionality and reach, emphasizing the importance of secure, seamless information flow. Our research in the area of “executable choreographies” promises to offer a structured yet flexible framework for decentralized collaboration among intelligent agents, akin to a symphony orchestra, enabling harmonious goal achievement.

The vision extends to evolving applications beyond traditional models, emphasizing executable choreographies among intelligent agents for collaborative efficiency. This approach requires extensive research and development to ensure security, efficiency, and user-friendliness. The iterative model, refining responses and enhancing problem-solving, mirrors human processes and is crucial for addressing complex challenges.

Embracing a Multi-Agent Approach

We strongly believe that the future of AI relies on a multi-agent approach, with each agent bringing unique capabilities to the table. This diversity is key to robust problem-solving and achieving Artificial General Intelligence (AGI), where AI can perform tasks across various domains akin to human intelligence.

AGI Level and IT Systems Adjustments

Achieving AGI necessitates that current IR systems be adjusted and supplement human capabilities, enhancing efficiency and productivity. AGI systems, while autonomous, require human guidance for problem selection and subjective decisions, embodying the ideal intelligent employees.

Alignment of Fully Autonomous AGI Systems

Fully autonomous AGI systems, especially those engaged in AI research, must be rigorously controlled to prevent scenarios where AI actions could be harmful to humans. Human oversight and limited access to resources are crucial for safe AGI advancement.

From the perspective of Axiologic Research, the alignment issue of future AI systems, whether at the AGI (Artificial General Intelligence) level or as forms of superintelligence, primarily involves finding ways to align ecosystems or "swarms" of intelligent agents. These agents are segregated into collaborative spaces and have secured access only to the necessary information. The control of AGI-level intelligence or the various types of superintelligences envisioned should be through the architectural mechanisms of composing the intelligence of agents. The science of setting limits for each component is likely crucial for optimizing energy consumption and reaction speed. It also serves as a guarantee that no component has the capability to become "rogue". A special report on this vision will be created and published on the Axiologic website.

This approach underscores the importance of designing AI systems that operate within clearly defined boundaries, ensuring that their operations remain safe and beneficial. By focusing on the composition of various types of intelligent agents, including intelligent agents focused on limits, ethics, etc and the meticulous establishment of limits, Axiologic Research aims to ensure that these advanced systems not only perform efficiently but also remain under control, preventing any single agent from exceeding its intended function or becoming a threat.

The forthcoming special report will delve deeper into these concepts, offering insights into how such a framework can be implemented to guide the development of future AI technologies responsibly.

Research Strategy: An Iterative Approach

The journey involves tackling AI's limitations in solving complex problems and refining AI capabilities for broader applications. Emphasizing human-AI collaboration, the goal is to create systems that enhance human decision-making and productivity. Multi-agent systems and executable

choreographies must be explored to foster innovation and effective problem-solving, emphasizing decentralized workflows and dynamic, adaptable processes.

Complex real-world problems demand more than a single AI model for resolution. An iterative approach, considering multiple solutions and carefully evaluating each step, is essential. This mirrors the human problem-solving process, emphasizing the need for dynamic and adaptable mechanisms.

Conclusions

AI agents are poised to transform human-software interaction, necessitating careful consideration of technical, ethical, and societal implications. Beyond convenience, AI agents have the potential to address critical challenges in education, healthcare, and more, offering a path to a more equitable and sustainable world. Open source and decentralized AI technologies are key to ensuring inclusive and innovative development, with AI agents acting as pivotal agents of positive change. Ensuring AI's evolution aligns with openness and transparency is vital for democratic societies, guiding us towards an interconnected and fulfilling future.