

From Lines of Code to the Language of Clicks: Are We Being Programmed?

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ABSTRACT

Artificial Intelligence has become a part of our everyday lives, helping us work faster, learn more efficiently, and solve problems with ease. However, increasing reliance on AI-generated assistance may influence creativity, judgment, and independent thinking. This editorial reflects on the evolving relationship between humans and intelligent systems, highlighting the importance of preserving curiosity, critical thinking, and originality while embracing the benefits of AI-driven technologies.

Keywords: Artificial Intelligence, programming machines, behavioral influence, computational world

With coffee mugs in our hands during a lively staff room conversation, we reminisced about those earlier days when we would spend hours coding, often stuck on something as small as a missing semicolon. We both smiled—the kind of smile only the coders who have survived endless debugging sessions can share. We revisited the years we spent learning how to communicate with the machines and the feeling that we control the machines. Today, that relationship is quietly, yet profoundly, evolving. We are no longer just programming machines; increasingly, machines powered by artificial intelligence (AI) might be programming us. This shift is neither abrupt nor entirely visible. We are embracing AI in the everyday digital ecosystems we are inhabiting. AI systems are continuously shaping our choices, whether it's travel and navigation routes, getting shopping suggestions, or the recommendations we receive on streaming platforms or the news. What

appears as convenience is, in fact, a sophisticated layer of behavioral influence (O'Neil, 2016).

At the heart of this shift lies a paradox. As AI systems become more capable, our need to think deeply appears to diminish. Why write code from scratch when AI can generate it instantly? Why juggle with a problem when a solution is a prompt away? While these conveniences provided by AI are powerful, they raise a critical question: *what happens to the human mind when it disengages from the process of creation?* (Carr, 2010). Individuals increasingly rely on external tools to manage cognitive tasks (cognitive offloading) to enhance productivity; however, such reliance may impair memory, and prolonged dependence on automated processes may ultimately result in cognitive decay (Risko & Gilbert, 2016).

In the past, coding practices were dedicated to writing, debugging, and refining lines of code to solve real-world problems. Programmers

were the true draftsmen of the computational world, converting logic into programming syntax to build solutions. The main idea of every programmer was to learn and command languages like Java, C++, and Python to define their expertise, and code development cycles often stretched into months or years to create software. But today we are witnessing a paradigm shift from “writing lines of code” to just “clicks and setting up parameters and configurations.” No-code and low-code platforms, dwelling up with drag-and-drop tools and AI-driven automation, are enabling faster creation and innovation for everyone (Emergent Mind, 2025).

But the question is: *With AI and no-code platforms in place, does programming still matter?* as highlighted in (Husain, 2025). For many, this feels like the end of the human coder. Are we setting the stage for – *Can you build solutions using available tools?* instead of *Can you code?* We feel that programming from scratch is not merely a technical task; it is a form of cognitive training. When we bypass this process and rely entirely on AI-generated outputs, we risk losing this mental rigor. This brings us to an even deeper concern: the future of *out-of-the-box thinking*. Creativity has always depended on our ability to question assumptions, break patterns, and imagine alternatives beyond existing frameworks. But AI systems are trained on past data, existing patterns, and learned probabilities (Mitchell, 2019). They operate within a “box” defined by what has already been seen and optimized. Research suggests that AI models can develop meaningful internal representations of a “world” simply through training on sequences of data. For instance, in an experiment involving the game Othello, a model trained only on move sequences was able to internally reconstruct the board state, indicating structured learning beyond simple pattern matching (Li et al., 2023). While this highlights the increasing sophistication of AI, such representations are still derived from

existing data distributions, raising concerns about whether reliance on these systems may ultimately constrain truly novel, human-driven creativity.

A simple analogy can help us understand this. Glasses help us see the world more clearly, but they don’t change how we think, interpret, or imagine what we see; our inner vision remains our own. In the same way, AI tools act like “cognitive glasses.” They make our work faster, help us process information, and bring clarity to complex tasks. But they should not take away our ability to think independently or create new ideas. Just as glasses support our eyes without replacing vision, AI should support our thinking without limiting our creativity or originality.

If AI increasingly shapes what we see, read, and think, then it also subtly defines the boundaries of that box. And if we begin to depend entirely on AI-generated ideas, we must ask: *how will we think outside the box if AI itself becomes the box?* This does not mean AI cannot support creativity—it certainly can. But unchecked reliance may create a barrier to venturing into the unknown—spaces that are not always captured by data-driven systems.

Closely tied to this is the growing risk of intellectual uniformity. When millions of individuals interact with systems such as the Large Language Models (LLMs) trained on similar data and optimized for similar outcomes, diversity of thought may begin to diminish: a stochastic parrot (Bender et al., 2021). Students using the same AI tools may produce similar answers. Writers may generate similar content. Coders may follow similar patterns in their coding practices. The result is not just efficiency but also the unchecked convergence which comes at the cost of originality. Think of children building with Lego. If everyone follows the exact same instruction manual, they all end up with identical models. But real creativity comes when children use the same blocks to build something

different from their imagination. AI often gives us the “instruction manual,” but we must still build our own designs.

In an AI-driven world, remaining in student mode is not optional; it is essential. If we constantly outsource thinking to machines, we gradually shift from active problem-solvers to passive consumers of solutions (UNESCO, 2023). The danger is probably not that AI becomes intelligent, but that humans become intellectually complacent. The challenge, therefore, is not to resist AI but to engage with it consciously. AI should be a tool that expands our thinking, not a framework that confines it. We must continue to write, to build, to question, and to struggle—because these are the processes through which originality is born. In this evolving landscape, the priority is not just knowledge dissemination but the preservation of thinking, questioning, and creativity. As AI reshapes how we learn and think, it is our collective responsibility to ensure that we remain not only capable of using intelligent systems, but of thinking independently beyond them. Because this is not just a shift in technology, it is a shift in how human thought itself is shaped.

The journey from printing “Hello World” to a world shaped by intelligent systems is extraordinary. Yet, the true measure of progress will not be how intelligent our machines become but how deeply we continue to think, question, and create. Because in the end, if we lose the ability to think beyond the box, we may not even realize that we are inside one.

Conflict of Interest

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