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CURMUDGEON CORNER

How ChatGPT undermines my research productivity

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Dear Editor,

The buzz around generative artificial intelligence, particularly tools like ChatGPT, promises a revolution in academic research—a streamlining, an acceleration, a boundless new frontier. Yet, my colleagues and I, despite our initial optimism and daily use of these tools, have stumbled upon a counterintuitive truth: our research productivity isn't soaring; it's paradoxically diminishing. This isn't a Luddite's lament but a critical assessment of how AI, in its current manifestation, actually impedes the creation of meaningful knowledge in fields from economics to education. The world already drowns in data, articles, and books—a "welter" of information. What we truly lack is "knowledge-with-sense and judgment-with-value". This essay argues that AI, far from being a neutral tool, is actively making that deficit worse.

Let's be clear about "research productivity". It's not about how many papers we churn out; if it were, we'd be drowning in AI-assisted mediocrity. True productivity means generating meaningful knowledge: original ideas, rigorous methodologies, impactful insights that genuinely advance understanding, and the wisdom to synthesize disparate information with sound judgment. Why should anyone care about this kind of productivity? Because it's the engine of societal progress. It helps us solve complex global challenges, drives innovation, fosters critical thinking, and enriches human understanding. It's about creating knowledge that truly matters, not just adding to a digital landfill. When we prioritize mere quantity, we foster a "publish or perish" culture that dilutes scholarship's very essence.

One immediate snag with AI in research is its sheer impracticality with the existing academic infrastructure. ChatGPT doesn't have a direct line to paywalled journals or specialized archives. Researchers are left manually downloading, converting, and uploading vast quantities of material. This isn't efficient; it's administrative friction. It introduces unnecessary steps that break the flow of exploration, turning what once required a single browser tab into a tedious data management exercise. Even specialized AI research tools like Elicit offer limited reprieve for deeply nuanced, domain-specific inquiries. The promised efficiency feels, for now, like a mirage—a seductive vision of frictionless research that evaporates when faced with the concrete reality of academic databases. This friction wastes researchers' time and, more crucially, redirects their mental energy from critical thinking to mundane data handling, impacting funders who seek genuine breakthroughs, and institutions that invest in efficient knowledge generation.

The deeper problem lies in how AI processes and presents information, particularly through its ubiquitous summarization functions. AI-generated summaries, as produced by ChatGPT, ruthlessly break down complex papers into rigid sections like "Methods" or "Results". This structure, famously known as IMRAD (Introduction, Methods, Results, and Discussion), solidified in scientific publishing around the mid-twentieth century. It originated in the natural sciences and engineering to ensure reproducibility and unambiguous reporting of experiments. While it brings a surface-level clarity, its widespread adoption has already come at a cost to depth, especially in disciplines where context is king. AI, by design, exacerbates this.

It strips away contextual richness—the intricate historical trajectory, socio-cultural implications, theoretical underpinnings, and complex interdependencies that give scholarship its full meaning. It's the "why" and "how" beyond the superficial "what". And it undermines nuanced understanding—the ability to grasp subtle distinctions, appreciate complexities, and interpret meanings beyond the literal surface. AI

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operates on statistical patterns, not true comprehension. It predicts the next most plausible word, not the most profound insight.

Consider how this fails in practice. A literary scholar analyzing a postmodern novel relies on the contextual richness of its historical period, the author's biography, philosophical currents like existentialism, and intertextual references. ChatGPT might summarize the plot but will almost certainly miss the nuanced understanding derived from subtle stylistic choices or implicit societal critiques; its training data are statistical, not hermeneutic. For example, it might summarize Samuel Beckett's Waiting for Godot as "two men wait for someone who never arrives", utterly missing the profound philosophical despair rooted in post-WWII Absurdism.

In anthropology, understanding a remote indigenous community demands contextual richness about kinship systems, ecology, and spiritual beliefs. ChatGPT can report observed behaviors, but it fundamentally struggles to convey the nuanced understanding of intertwined cultural meanings or power dynamics. It cannot infer the depth of significance behind a potlatch ceremony without ethnographic immersion. Similarly, for a legal scholar analyzing a landmark Supreme Court case like Brown v. Board of Education, the facts are insufficient. They need the contextual richness of decades of legal precedents and societal conditions, and the nuanced understanding of how a single phrase in an opinion could set a new legal standard. ChatGPT, prioritizing surface-level information, will miss these crucial jurisprudential depths.

Deep engagement, with its critical reading and iterative reflection, fosters original insights. AI-generated summaries, conversely, discourage this slow, deliberate analysis. When researchers over-rely on these convenient shortcuts, they prioritize a false efficiency over genuine intellectual synthesis, absorbing only surface-level takeaways. The real issue arises when these summaries replace full-text reading. This shift disrupts the natural rhythm of intellectual exploration, where, as Vuong and Napier noted in their 2015 work on global mindsponge, recursive engagement often leads to the most valuable insights. In theoretical or interdisciplinary research, AI summaries frequently fail to capture the subtle arguments and nuances that truly give a paper its significance. Therefore, AI should only enhance—never replace—the immersive process that fuels meaningful scholarship.

This issue traces back to the algorithms themselves. Large Language Models predict words based on statistical probabilities from vast datasets. While impressive, this approach has severe limitations. First, it leads to Contextual Blindness. LLMs lack true comprehension; they don't grasp implicit meaning or underlying theoretical frameworks. Summaries become decontextualized, presenting the "what" without the critical "why". Second, bias amplification is rampant. LLMs reflect the biases in their training data. If historical academic discourse contains biases (e.g., Eurocentrism), the AI will mirror and even amplify these, subtly skewing researchers' perspectives and impeding original, equitable inquiry.

Third, and perhaps most dangerously, LLMs are prone to "Hallucination". They confidently generate factually incorrect information or even fabricate sources. This predictive nature means if a false statement is statistically plausible, it's generated without an internal truth-check. For researchers, this means that every AI-generated "insight" demands rigorous cross-referencing. This isn't just fact-checking; it's validating interpretation and veracity. This added, profoundly time-consuming layer of manual verification negates any promised time savings. It creates duplicated efforts, breeding constant skepticism about AI's reliability, and is a significant impediment to genuine productivity. Imagine a researcher wasting hours tracking down a non-existent study cited by AI, or correcting fundamental errors AI confidently introduced.

Fourth, the ease of AI summaries leads to an "Efficiency Trap": a superficial engagement with the material. Instead of wrestling with complex arguments—a cognitive process crucial for breakthrough—researchers opt for the quick summary. This stifles the intellectual curiosity and analytical rigor that drive impactful research. Finally, the "Black Box" Problem means that LLMs' internal workings are opaque. Researchers can't trace how an AI arrived at a conclusion, making it impossible to identify subtle misinterpretations or biases influencing their own thinking. This lack of transparency undermines the verifiable process essential for academic credibility.

Relying on ChatGPT's summaries introduces a persistent unease—akin to historians working from translations of Ho Chi Minh's Prison Diary without ever consulting the original Chinese, risking the loss of linguistic subtleties and cultural nuances. AI tools, while superficially accurate, often omit critical context, misinterpret data, or oversimplify complex interdisciplinary arguments (Ray 2023). We are left in a paradox: instead of genuinely accelerating research, AI reliance leads to duplicated efforts, hindering true productivity.

The fundamental stakes are high. Beyond individual researchers, AI's integration without clear guardrails threatens the integrity of academic institutions, the allocation of research funding, and the very future of knowledge. The absence of universal guidelines for AI use complicates everything. Journals vary wildly in their policies—some demand explicit citation, others treat AI as an uncredited "tool", and some require disclosure of AI-generated content ratios (Elsevier). Questions of authorship, hallucination mitigation, and accuracy verification remain unresolved, leaving researchers vulnerable to ethical missteps and reputational damage. This fosters a climate of caution. Even unintentional misuses could erode fundamental trust in scholarly integrity, a trust built painstakingly over centuries. As

institutions and publishers scramble to catch up, researchers are left navigating a complex, evolving ethical landscape blindfolded. Compounding this, profound divergences exist at personal, institutional, and cultural levels about what constitutes authenticity and original thinking in the AI age. AI is never a neutral tool; it embodies and perpetuates the biases of its creators and its training data, shaping not just our answers but the very questions we ask.

These multifaceted challenges underscore an essential truth: AI tools like ChatGPT are not universal cure-alls. Their effective use demands not just technological refinement but systemic collaboration across academia and a deep, critical reflection on cultural practices related to knowledge creation (Ho and Vuong 2024). Regulatory bodies must establish clear, adaptive ethical frameworks. Academic institutions must rigorously train researchers to use AI critically, understanding precisely when automation offers genuine benefit, and, more importantly, when profound human intellect, judgment, and critical engagement must unequivocally take precedence (Ray 2023).

Personally, we continue to integrate and use AI tools daily, recognizing their potential for certain tasks while actively resisting over-reliance that would diminish our intellectual independence. The path forward is emphatically not about rejecting AI. It's about fostering a sophisticated, symbiotic relationship where technology judiciously enhances human creativity, expands our analytical capabilities, and accelerates mundane tasks, all without diminishing the fundamental rigor, inherent curiosity, and patient dedication that define truly meaningful scholarship. As AI continues its rapid evolution, so too must our strategies for harnessing its capabilities responsibly and ethically, ensuring that it serves as a powerful catalyst for profound discovery rather than an intellectual crutch, or worse, a bottleneck of informational chaos that stifles innovation and critical thought.

Curmudgeon Corner Curmudgeon Corner is a short opinionated column on trends in technology, arts, science and society, commenting on issues of concern to the research community and wider society. Whilst the drive for super-human intelligence promotes potential benefits to wider society, it also raises deep concerns of existential risk, thereby highlighting the need for an ongoing conversation between technology and society. At the core of Curmudgeon concern is the question: What is it to be human in the age of the AI machine?–Editor.

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Declarations

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