

Better, Faster, Cheaper, Safer: Why AI must replace human labor

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Machines replaced ox and other draft animals.

We stand at the precipice of a new era — one defined by the rapid advancement of artificial intelligence and its integration into nearly every facet of work and life. As we enter the Fourth Industrial Revolution, we must thoughtfully consider how to best leverage these emerging technologies to create a brighter future for all.

A core question underpins this societal transition: in areas where machines demonstrably surpass human capabilities, should we continue forcing a 'human in the loop' approach or fully embrace the rise of the machines? When we examine this debate across the dimensions of efficiency, speed,

cost, safety and scalability, a compelling case emerges for replacing human labor with advanced AI systems wherever they excel.

Looking to the Past as Prologue

History provides a guidepost as we navigate this machine age. In the 18th and 19th centuries, oxen were the dominant source of power for key tasks like plowing fields and transportation. Yet the Second Industrial Revolution brought forth machines that could outperform oxen on virtually every front. Mechanical plows and tractors plowed fields more efficiently than oxen. Locomotives and automobiles transported goods far faster. Though initially expensive, machines became cheaper to operate and maintain than the care and feeding required for oxen. With more predictable operations, machines also proved safer than working with large animals prone to unpredictable behavior. And the scalability of these technologies allowed an unprecedented increase in agricultural and industrial output.

Consequently, there was no serious question as to whether oxen should be "kept in the loop." Once machine capabilities exceeded those of animals, the economic incentives naturally drove adoption of mechanical alternatives. Oxen were phased out from most roles over the 19th and early 20th centuries.

We now stand at a similar inflection point with artificial intelligence. Technologies like large language models and autonomous vehicles are already matching or exceeding human performance on select capabilities. To responsibly transition into this future, we must carefully examine where and how such machine adoption makes sense — not based on fear or nostalgia, but a fair and rational consideration of their capabilities relative to human labor.

Better Than Us: Accuracy and Fidelity

A primary dimension where AI is beginning to surpass human skill is accuracy. Large language models like OpenAI's Whisper provide an illustrative example. Announced in September 2022, Whisper represents a breakthrough in speech-to-text transcription capabilities. It achieves state-of-the-art performance on converting speech in multiple languages into written text.

This level of accuracy holds profound implications. For any application where textual fidelity matters — such as capturing legal depositions or analyzing patient-doctor conversations — AI is now the superior choice. Unlike humans, Whisper does not mishear terms or insert its own inherent biases. It produces verbatim documentation without tiring or losing focus.

As AI research continues, such state-of-the-art natural language systems will only grow more accurate. They will become ubiquitous tools for recording speech, facilitating real-time translation, and analyzing verbal content across domains. In these areas, maintaining human involvement out of principle makes little sense — we must go where the accuracy leads.

OpenAI's Whisper has remarkable ability to transcribe audio to text.

Faster Than Us: Speed and Productivity

Beyond accuracy, AI also unlock unprecedented gains in speed. Take Anthropic's Claude as an example. This natural language model can read and summarize lengthy documents in seconds. It recently demonstrated the ability to digest 80,000 words — equivalent to a 330 page book — in just about 30seconds. Claude can then synthesize the material into concise summaries, key talking points, and potential article ideas in real-time.

This level of reading comprehension and productivity vastly exceeds human capabilities. At typical reading speeds of 200–400 words per minute, it would take a person over 5 hours to get through 80,000 words. Generating insightful summaries would add even more time. With Claude, marketers can analyze troves of industry reports, executives can consume hours worth of

briefings, and researchers can extract key insights from endless academic papers in mere minutes.

Claude was created by Anthropic AI

Cheaper Than Us: The Economic Argument

In addition to improvements in accuracy and speed, AI solutions are increasingly more cost effective than human labor. Take the example of using ChatGPT along with a code interpreter to conduct statistical analysis. This AI-based solution carries a subscription cost of just \$20 per month. An equivalent human asset — a biostatistician — could easily cost over \$8,000 per month in salary and benefits. The AI option represents over a 400x cost reduction while still delivering robust data analysis capabilities.

Such extreme cost savings are possible because while the upfront cost to train powerful AI models is substantial, the marginal cost to deploy these models is negligible. Once systems like Claude, Whisper, and ChatGPT are

built, they can be replicated almost infinitely for mere pennies per use. There are no demands for salaries, healthcare, vacation, or retirement benefits. The systems work around the clock without complaint.

This gives AI solutions an almost unbeatable cost advantage for the foreseeable future. Even accounting for the need for some human oversight and maintenance, they offer order-of-magnitude reductions in total cost of operations compared to human labor. Much as businesses eliminated oxen to reduce costs, any rational enterprise will seize upon AI automation to drastically cut expenses in areas where technology can substitute for human workers.

Safer Than Us: Predictability Over Emotion

Safety presents another dimension where increasingly AI is proving superior to accident-prone humans. Autonomous vehicles present the clearest example. Google's Waymo driverless taxi service recently announced it had achieved an accident rate of just 0.59 per million miles. This compares with a national average accident rate involving human drivers of 2.98 per million miles.

Remarkably, Waymo attained this level of safety with no fatalities caused by its autonomous system over 23 million miles of operation. There have been 18 definite fatalities in the U.S. involving Level 2 ADAS cars with some autonomous features between 2019 and 2023. However any deaths have resulted from inappropriate human use of the technology or poor maintenance of vehicle safety systems. Waymo's track record indicates that fully autonomous vehicles can already achieve far greater road safety than human control.

Some sources disagree with these numbers, but the fact that self-driving

cars exist is more than enough evidence for me. Technology gets better with time.

They aren't the prettiest cars.

Scalability: The Machine Advantage

A final area where AI promises tremendous progress beyond human limitations is scalability. Once trained, algorithms like Whisper and Claude can be deployed across millions of endpoints simultaneously. They allow any individual with an internet connection on any device to access capabilities from perfect transcription to expert scientific analysis. Unlike human experts, their effectiveness does not degrade with scale.

Realizing this future does not require every organization to build its own AI models from scratch. Through application programming interfaces and cloud-based services, companies can purchase low-cost access to state-of-the-art capabilities like natural language processing on demand. Much as small firms don't need to build their own payroll systems or email services, they can simply tap into sophisticated AI tools with minimum setup and marginal costs.

But accessing these benefits does require embracing automation in lieu of manual processes. As with oxen and machines in the Second Industrial Revolution, we need to go where the scalability leads.

Evaluating the "Human in the Loop" Mindset

In light of AI's mounting advantages in accuracy, speed, cost, safety, and scalability, calls for keeping a "human in the loop" must be carefully examined. Certainly, humans play a critical role in designing, training, monitoring and overseeing these systems. While reckless automation without governance could lead to negative consequences, the goal should not be to myopically insist that humans "remain in the loop" for all time. Instead, as with any new technology, we should overcome any unintended consequences.

When cars were first invented, horse-level speed limits were applied to them. That trends, fortunately, died a quick death. This is no different.

However, insisting on manual human involvement as the default in all processes, regardless of AI capabilities, makes little sense in a world where machines are mastering select skills at superhuman levels. Once AI definitively surpasses human performance, requiring human oversight introduces bottlenecks that compromise efficiency, slows speed, raises

costs, and undermines safety. And with massive scalability, human-based work will struggle to keep pace.

This dilemma evokes the famous allegory of John Henry, the steel-driver who battled a mechanical drill to drill rock. Initially Henry prevailed through sheer superhuman effort. But his eventual defeat was inevitable once machines exceeded his capabilities. Today's knowledge workers are unlikely to fare any better trying to outperform AI, any more than secretaries could beat the typing speed of a word processor. We risk compromising key metrics if we mandate human involvement purely out of nostalgia.

Moreover, AI oversight roles that rely on humans directly intervening at the speed of algorithms may quickly prove cognitively overwhelming. Just as oxen drivers could not usefully steer locomotives at 90 miles per hour, most people lack the reaction times to monitor AI operating at electronic speeds. Expecting individuals to manually approve each of Claude's document summaries or Whisper's transcribed phrases is unworkable. Instead, we need to automate the supervisors.

None of this is to say humans have no place in an AI-enabled world. Quite the contrary. But it does suggest we must thoughtfully examine when insisting on manual processes amounts to romanticizing human abilities at the expense of productivity and progress. If we don't pragmatically replace human labor with advanced AI where appropriate, we risk ceding competitive advantage to those who do.

Building a Machine-Enabled Civilization

History suggests societies that pragmatically adopt more advanced technologies thrive, while those gripped by nostalgia stagnate. As we move into the Fourth Industrial Revolution, we must apply this lesson to AI. Where

evidence demonstrates machines exceed human capabilities, we should eagerly integrate them into our workflows and operations.

This could displace certain categories of human employment — just as mechanical agricultural equipment displaced oxen-based farming. But it also promises to create new and stimulating roles for people as AI designers, trainers, explainers, and overseers focused on the most cognitively ambiguous tasks. Workers displaced by automation must be supported through upskilling and new educational pathways. But the march of progress cannot halt merely to preserve legacy ways of working.

Thoughtful regulation will be needed to govern areas like bias in algorithms, safety standards, and data practices. But policymakers must take care not to prevent integration of AI systems superior to human judgement based on precautionary principle alone. As with past industrial revolutions, we must evolve laws at the pace of technological change.

The rise of thinking machines does warrant concern if we anthropomorphize AI as a competitor to humankind. But if embraced as tools amplifying human abilities and liberating us from repetitive tasks, advanced AI systems can unleash new realms of economic dynamism, scientific discovery, and creative achievement. Far from humanity vs machines, our task now is finding the right balance for integrating complementary human and algorithmic intelligence across all facets of life. If we can achieve this symbiosis, the Fourth Industrial Revolution can usher in a world of unprecedented insight, innovation, and prosperity.

Why AI will destroy all jobs