NTT DATA
Services

Working Hand in Hand With Artificial Intelligence

Collaboration will yield better results

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Artificial intelligence and the future of the human workforce

Artificial intelligence (AI) is no longer a laboratory experiment. It's out in the real world, and it's everywhere. In fact, the chances are good that you've already interacted with an intelligent system — one that speeds up processes, improves accuracy, and provides deep insight and predictions. They're especially common in the healthcare, professional services, financial services, manufacturing and legal industries.

Over the last decade, we've seen a rise in the use of machine learning-based algorithms that humans don't need to explicitly program. These algorithms train themselves using massive datasets, and several examples of such "narrow" AIs — those good at just one task — are common. AI today helps us, for example, take the shortest route home and skip traffic. It recommends movies based on our preferences and suggests what we should shop for next.

But is that all AI can do? No. We're just scratching the surface of its capabilities and its potential. The challenge now is to continue developing AI while leveraging a human plus AI approach, where AI is used alongside humans — not instead of them — and where we weave together AI, people and processes to maximize real outcomes. Think of it as augmented intelligence.

AI adoption

So, where do we stand? The economic potential in the use of AI technologies means its adoption in business continues to increase. And the technology is certainly generating returns.

The worldwide AI market is expected to reach $202.57 billion by 2026, up from $20.67 billion in 2018.[1] IDC believes that through 2022, deployment of AI to augment, streamline and accelerate IT operations will be a principle IT transformation initiative for 60% of enterprise IT organizations.[2]

Applying AI capabilities helps industries perform the functions that create value faster, better and with higher efficiency. A recent global survey by McKinsey & Company points at a 25% year-over-year increase in the use of AI in standard business processes.[3] Around 44% of executives whose companies have adopted AI say that it has reduced costs.[3]

The growing pace of AI adoption indicates that organizations continue to invest more in creating AI assets and AI-related talents. Today, the emergence of AI in our life and business processes is making us better, and we even expect a rise in it.

Many people have concerns about the evolution of and advancements in AI and how it may affect the meaning of being a human, being productive and having the ability to exercise free will.

Deep within the human mind there is a negative feeling that AI will one day become conscious and seek to destroy humanity or be leveraged for evil purposes. As a result, not everyone is ready to welcome AI with open arms. Among the general public's concerns are that AI may trigger mass unemployment. Some people believe that individuals' cognitive, social and survival skills may be diminished once they start to depend on AI.

Even the narrow AI that is proving its worth in business brings up potential risks. Beyond workforce displacement are other highly recognized AI-related risks, including cybersecurity, regulatory compliance and personal privacy issues.

Organizations need to recognize these risks and work toward reducing and mitigating them using technology while retraining employees and preparing them for AI adoption.

Automation and the new world of work

When cars start driving themselves, machines start interpreting medical reports, and customers can't tell that machines respond to and resolve their inquiries, there are bound to be changes in how we work and what jobs we do. Some professions will thrive while others simply vanish; many will change drastically.

Several studies have mapped current global work activities to suggest the theoretical possibility of automating them using advanced technologies. A recent study by McKinsey & Company suggests that by 2030, depending on the speed of automation adoption, up to 30% of the hours worked globally could get automated.[4]

Certainly, AI is used to automate processes. But when the goal is to displace employees using AI, the results are often short-lived. Completely displacing humans using AI also seems ill-advised, because what comes naturally to humans (interpersonal communication and emotional intelligence) seems challenging for machines and what's straightforward for machines (processing tons of data) remains time-consuming for humans. Business requires both types of capabilities.

It needs humans, who excel in ambiguous, cross-functional tasks that require reasoning skills. And it needs machines, which thrive in deterministic tasks involving process-oriented and quantitative reasoning skills. Over the next decade, 80% of cross-functional reasoning tasks will continue to be done by humans, while humans and machines split quantitative reasoning tasks 50-50 and AI systems complete more than 80% of process-oriented tasks.[5]

Combining human skills like leadership, teamwork, creativity and social abilities with AI's speed, scalability and quantitative capabilities results in significant performance improvements. Cancer identification is a good example. According to research from Harvard Medical School, AI algorithms read diagnostic scans with a 92% accuracy rate and humans with 96% accuracy; together, it's 99.5% accuracy.[6]

To fully leverage the advantage such collaboration creates, it's imperative that organizations grasp how humans can augment machines effectively, how humans can continue to do what they do best while embracing the enhancements machines enable, and how to support this partnership by redesigning business processes.

AI as augmented intelligence

"Augmented intelligence is all about people taking advantage of AI," said Svetlana Sicular, research vice president at Gartner. "As AI technology evolves, the combined human and AI capabilities that augmented intelligence allows will deliver the greatest benefits to enterprises."[7]

In 2021, artificial intelligence augmentation will create $2.9 trillion of business value and 6.2 billion hours of worker productivity globally, according to Gartner, Inc.7 It also predicts that by 2030, decision support/augmentation will surpass all other types of AI initiatives to account for 44% of the global AI-derived business value.[7]

This is the human plus AI approach. It does not remove people from the process. Instead, AI works with humans to empower and facilitate their efforts. It empathizes with users in every step of the process and builds a bridge between the possibilities that technology can offer and the real needs of users.

MIT researchers focusing on human-centered AI are studying, improving and modifying AI frameworks that learn from people as well as collaborate with them significantly.[8]

NTT DATA Services, for example, used our Data Intelligence Platform to build a cognitive denial prediction and prevention solution for a healthcare provider's revenue cycle management system. The solution leverages a multi-layer, deep learning artificial neural network and machine learning technologies to discover covert and overt patterns between related and unrelated data elements.

The cognitive AI engine not only predicts claims rejection rates, with reasons for rejections, it keeps humans in the loop and assists with analyzed data at various stages of the process. Claims agents use a specialized tool to discover the root causes of claim denials. That tool also provides detailed information on denial spread, as well as analysis and inference on the processes that impact denials.

The true value of human-centric AI lies in how it can increase productivity in the real world. Our tool allows claims agents to always be in full control of the process, empowering them to perform diagnostic validation with various combinations and then confidently determine necessary corrections in claims.

AI systems depend on humans, but several intrinsic factors limit AI opportunities and its scalability.

These include:

- **The lack of a unified system and approach for storing and processing data, which significantly increases AI project implementation timelines.**

- **Unfamiliar situations, which could make AI stumble and provide an incorrect recommendation, forcing the transfer of control back to humans. In such cases, AI processing power takes a backseat to human creativity and adaptability.**

- **The need for course-corrected algorithmic extremism in content recommendation engines on social media platforms, which humans often provide to ensure recommendations are ethical, responsible and safe.**

This man-machine partnership improves the healthcare provider's claims denial efficiency, in addition to helping the organization review claims up to 500% faster. The solution increases its claims acceptance, significantly improving the organization's cash collection and reimbursements.

Conclusion

The current extent of computing technologies fails to create "human intelligence" by adding machine learning and tons of data. Many believed that chatbots would be able to replace human agents in call centers. Today, however, even the best conversational AI deployed in call centers needs to be monitored by human agents in case of errors.

Dealing with real-world AI applications seems like little more than data and algorithms. Human intelligence augmented by automated computational methods may be the key to generating near-perfect accuracy, where human input compensates for machine error and the combination produces a greater effect than either could achieve alone.

So, instead of creating an AI that replaces doctors and nurses, we need to create human-centric AI that analyzes diagnostic records and presents summaries to doctors for enhanced decision-making while leaving more time for these professionals to see patients. This way not only are diagnostic errors minimized, but doctors are more efficient and effective.

It's human-centric AI — an approach that brings together the fast data processing and learning capabilities of machines and the intelligence, creativity and emotions of humans. And it could also be the starting point for building trust in AI and machines. With the capability to enhance decision-making processes to achieve better outcomes, human-centric AI can help create a better world.

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Let's get started

See what NTT DATA can do for you.

Contact **bpo@nttdata.com** or visit **nttdataservices.com/rpa** to learn how you can enhance the human capabilities within your organization with AI.

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