AI Crash Course: How Does Machine Learning and Natural Language Processing Fuel Intelligent Automation?

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Are You Ready To Ride The Hype Train?

The bots are upon us. Since the kick-off of 2023, AI has been the center of much speculation, prediction, and general hysteria regarding its transformative capabilities for work, life, and the people in between. While the concept of AI has been long dreamt of in science fiction, advancements in the supporting technology of AI such as Machine Learning (ML) and Natural Language Processing (NLP) show us the reality of what AI is and where it will go to unlock massive business potential.

But before we reach that promised land of benefits, there's a lot to unpack regarding the current state of AI for business, how NLP and ML work together, and a few important considerations when applying AI to enhance business processes.

So without further adieu. . .let's get into it.

The Past, Present & Future of AI

AI has been a fundamental building block of Intelligent Automation (IA) for over a decade. IA combines automation technologies like robotic process automation (RPA), optical character recognition (OCR), and workflow with AI capabilities to streamline processes, increase efficiency, and reduce human effort in performing routine operations.

But the current AI fever hasn't come from IA — rather — from Generative AI. Phenomena like ChatGPT, the Drake Fake, Midjourney, and more have captured public and professional curiosity, and now everyone's wondering… What more can we do with this technology?"

The truth is, as cool as generative AI is, there's so much more to it than outsourcing your organization's content creation or making pretty pictures for social media.

AI Adoption and Your Business Goals

Let's review some fast facts. Despite the stunning capabilities of Generative AI, studies by IDC report:

- The highest use-case of AI across business departments remains in **its application for intelligent task or process automation.**
- Early adopters of AI are seeing increases in common business objectives, including a **35% improvement in innovation** and a **33% increase in sustainability** over three years.
- Customer and employee retention, which should remain a top priority for businesses during financial downturn, saw equal improvements of 32%.
- **The number one** most sought-after business objective for AI is quite simply to mprove operational efficiency.

We all want to do things faster and simpler without sacrificing the results. But how does AI adoption help us achieve our ultimate aims and ambitions of improving operational efficiency?

The key lies in recent improvements to Machine Learning and Natural Language Processing.

Natural Language Processing and Machine Learning Launch IA Forward

Current Intelligent Automation (IA) solutions have the specific goal to reduce and improve human intervention in highly repetitive, mundane work activities. IA solutions work in tandem with humans to benefit workplace satisfaction and efficiency. Still, these solutions require a fair amount of predefined rules and human intervention for processing things like exceptions and making decisions based on programmed data sets. Until now.

Machine Learning (ML) has seen continuous growth in the tech industry, while the expansion of Natural Language Processing (NLP) in the past year has been decidedly significant — a building block of popular AI tools like ChatGPT. These advancements in ML and NLP change the game for intelligent automations equipped with the latest in AI enhancements in several key ways.

Make human-like decisions based on unstructured data.

- Data plays a vital role in every interaction between customers, vendors, suppliers, stakeholders, and internal departments. Advancements in our abilities to extract and manage content from unstructured data formats like social media, visual & auditory media, spatial, synthetic, and master data, and more dramatically improves visibility in analytics for better decision making.

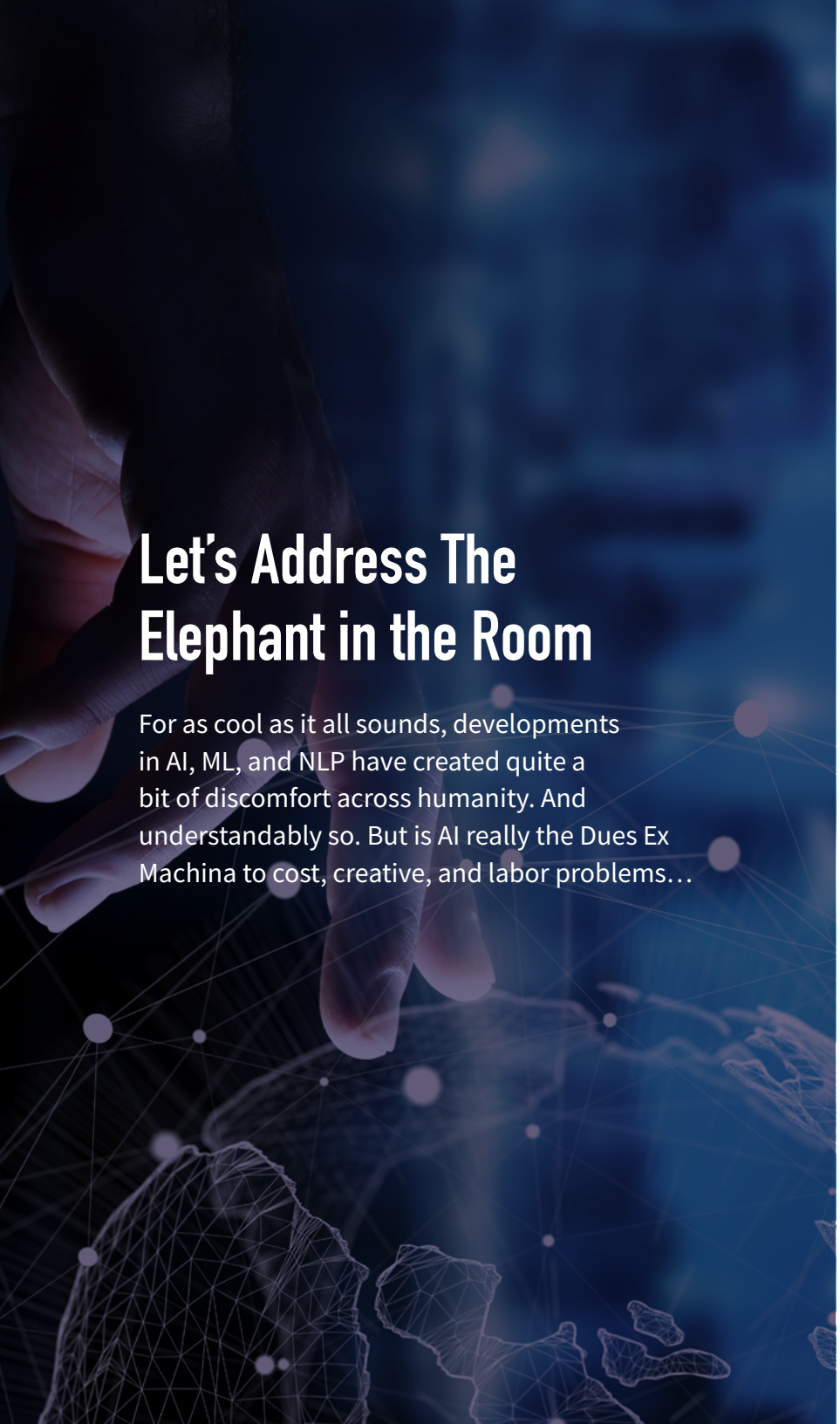
Improve citizen developer coding capabilities.

- In recent history, solutions have boasted capabilities that are low code or no code. Current low-code and no-code claims essentially mean that a platform has been built with user-friendly UI and intuitive drag-and-drop features for easy automation building. The caveat? More specific or complex use cases of automations still prove too much to handle for non-coding gurus.

- Advancements in NLP technology equip citizen developers with new capabilities to describe complex problems in simple, natural language to AI, which then accurately discerns these prompts and can generate working code in moments. The trend for NLP programming is certainly catching-on, with Forrester predicting over 10% of code and tests to be written by bots in 2023 and beyond.

AI self-training across IA systems

- Many automation solutions rely on human installation and monitoring to ensure automations know how to identify data, and what to do with it. But the latest in ML features now make it possible for AI to process, make insights/decisions, and label unlabeled data without human intervention. This newly labeled data is then added to a growing repository of AI knowledge and training processes. AI can even share this knowledge across IA systems, ensuring your entire suite of digital tools operates with the same knowledge and insights. A self-pollinating flower of technology if you will.



Let's Address The Elephant in the Room

For as cool as it all sounds, developments in AI, ML, and NLP have created quite a bit of discomfort across humanity. And understandably so. But is AI really the Dues Ex Machina to cost, creative, and labor problems…

Can AI Replace Human Decision Making?

The dream of IA was to automate highly repetitive and mundane activities to free humans up for something better, like making decisions that drive business. That being said, we've talked a lot about AI's ability to make its own decisions on critical data. So, are we saying that AI should start making these decisions on behalf of humans?

Yes, because not all decisions are created equal.

Picture a human tasked with hand-validating document data capture inaccuracies committed by old OCR technology. Sure, correcting a mistake requires someone to evaluate what went wrong and make decisions on the proper changes. But if that human's only job becomes correcting the same mistakes in an endless loop — **they'll burn out fast.**

Now, consider if — thanks to improvements in OCR — the data capture algorithm enhanced its ability to learn from past mistakes and could course-correct on its own. That human that once felt tied to repetitive decision-making gets to move on to bigger, brighter, and more important decisions.

Can AI Replace Humans?

The future of people in the workplace will no doubt be changed by AI, but full replacement of talented workers is not likely. Instead, organizations will need all hands on deck to monitor and make the best use of AI and its products, and maintaining teams of experts and decision-makers will be fundamental for success.

According to Forrester's Future Fit Survey, 63% of surveyed organizations are already laying plans to promote an insights center of excellence for business intelligence, advanced analytics, data science, and AI. Beyond that, it's estimated that one in four tech experts, including CIO and CTO level executives, will report to boards regarding AI governance and compliance, particularly as governance becomes as critical to organizations as cybersecurity.

Key Considerations Before AI Adoption

AI is already helping organizations realize superior business outcomes including enhanced customer and employee retention, innovation, and cost savings. Yet, despite rapid adoption, project failure rates are HIGH.

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among the major culprits.

Organizations must understand that running AI systems requires scale, expertise, significant planning, and a vast amount of resources for successful execution. As such, you may want to consider pumping the break on AI adoption en masse until you've gather the required internal infrastructure and have a clear understanding of your goals. Here are several considerations before AI adoption.

People

As we said, AI won't replace humans — rather — transform the look and feel of organizations. AI implementation, operation, and governance will require a well-fitted workplace with growth potential for new roles and responsibilities, including AI automation architects, content engineers, conversation designers, and ML engineers. Unfortunately, prior to the boom of Generative AI, skilled technology professionals were already in short supply and high demand, while upskilling initiatives have not done a great job of leveling the playing field. According to global recruitment office Hayes, as much as one-third of employees do not have the right skills to make the best use of AI and new machine learning technology.
(Source)

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The problem isn't going away anytime soon. Hiring operations must continue to consider effective strategies for attracting, retaining, and upskilling employees for workforces to meet the changing needs of an AI-run environment. **Be ready.**

Unintended Consequences

Data privacy, copyright infringement, and morality are all important considerations and perhaps unintended consequences of AI use. Data sharing is an integral part of business interactions, particularly in a B2B setting. While AI holds immense potential for optimizing processes and driving innovation, organizations must strike a balance between AI's capabilities and safeguards for sensitive information.

Furthermore, AI's insane and irresistible urge to spoof existing information means you just never know who or what AI is drawing its information from. This is less of an issue in AI-driven process automation versus Generative AI uses, but the simple schoolyard rule to check and cite your sources is extremely fundamental to avoid accidental copyright infringement.

Finally, remember that not everyone is on-board with the use of AI. While AI and NLP mean immense improvements for customer service-related endeavors like chatbots, people don't like to think they've been tricked by an AI. **The "real thing" will always be valued until the end of time.** Take for example this statistic from HubSpot. In a survey on the use cases of AI in marketing, nearly 50% of respondents reported they are not okay with generative AI used in social media. Keep in mind the human element always, and be transparent with your audience.

Key Planning

Not understanding where and when to automate has been a long-time challenge for digital transformation. We often recommend automation for low-hanging fruit processes that bring the greatest ROI. But considering the capabilities of AI along with the cost and complexity of implementation, AI-improved automations are becoming overkill for those one-off process fixes.

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Thanks to the improvements in self-training already mentioned, there's never been a better time for an enterprise approach to automation. Consider your best ways to access enterprise AI solutions, balancing options to buy, build, or outsource by observing your specifications for customizability, scalability, and costs. Finally, aim for platforms that play the most favorably with your specific types of data, embracing systems that can automate data discovery, cataloging, access/collaboration, and quality improvement.

What Does AI Mean To You?

If you're a sci-fi guru, AI is the ultimate "told ya so" moment. For the creatives, it's the doom of originality. For the side hustlers and opportunists — **it's the bronze goose of hatching plans and tapping new markets.** Our opinion? AI is the next best/worst thing since the internet. It has the potential to alter the look and feel of every business, and by the time it reaches full maturity, will completely transform the way we live, work, and play.

Still, in light of all the hype, there's a lot of speculation, prediction, and further understanding needed for how to effectively adopt AI in a business sense. AI improvements for process automation are a logical and straightforward first step to maximizing the developing capabilities in ML and NLP.

With a cautious approach and decisive touch, Intelligent Automation imbued by Artificial Intelligence can accelerate business operations, improve margins, boost satisfaction and innovation, and so, so much more.

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About KeyMark

KeyMark is a leading provider of intelligent automation solutions focused on enabling better business outcomes through capture (OCR), workflow (ECM), case management (DCM) and robotic process automation (RPA) solutions, artificial intelligence, and machine learning technology. KeyMark helps clients leverage technology, such as artificial intelligence and machine learning, to maximize productivity and decrease manual labor in industries such as: financial services, healthcare, insurance, manufacturing, distribution, utilities, logistics and the public sector.

Together, KeyMark, Blue Prism, Ui Path, OnBase by Hyland and Kofax help organizations to scale effectively and achieve operational agility by deploying a digital workforce that maximizes productivity and minimizes manual work. As a value-added reseller of today's leading intelligent automation solutions, KeyMark is one of a select few organizations worldwide to represent such a comprehensive list of automation capabilities with years of proven experience and award-winning Extended Support. Additionally, KeyMark is the creator of Forms InMotion, an innovative software-as-a-service solution for forms automation.

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