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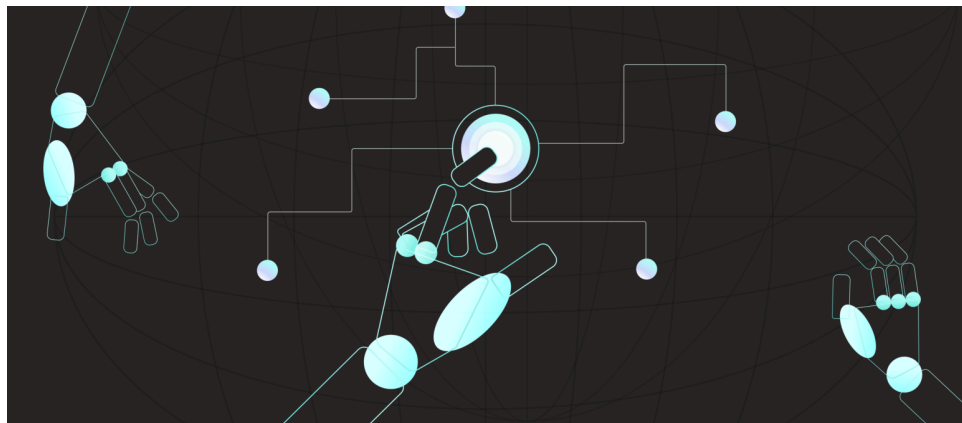
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AI Automation: A Detailed Introduction

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AI and Automation

We are witnessing a remarkable shift toward AI and automation. AI plays a vital role in enhancing our ability to automate tasks for better efficiency and speed. Together, AI and Automation supercharge one another.

AI automation is a game-changer for almost all industries. It helps boost productivity, reduces human error, and opens up enormous possibilities to drive business growth in a way that enhances the overall experiences of both customers and employees. Industries like healthcare, finance, retail, manufacturing, and others are already benefiting from AI-automated processes and stand to benefit much more.

AI automation is already improving business processes across a wide spectrum of the value chain.

Front Office

- **Supercharging Sales Operations.** Automating CRM software like Pipedrive and coupling it with front office communications software like Slack allows for sales teams to be on the same page about leads and opportunities.
- **Enhance marketing campaigns.** AI automation allows for streamlining asset requests and makes campaign launches easier across teams like web, design, analytics and MOPs.

Back Office

- **Automating EOM tasks like invoice processing and auditing.** For example, companies like KPMG use AI to automate the auditing process.
- **Detecting fraud and managing risk.** AI-powered software can assist in detecting fraudulent transactions both at point-of-sale as well as in invoice reconciliation.

Customer Experience

- **Providing 24/7 support to customers for questions about purchases, returns, and shipping.** For example, AI chatbots are used by companies like Walmart, Flipkart, and Amazon to answer customer questions.
- **Automating tasks such as customer service calls and emails.** Comcast uses AI software to handle customer service calls.
- **Offering accurate recommendations and suggestions.** The right AI automation can enhance customer journeys based off of historical data.

benefits and HR. For example, an AI chatbot from Babylon Health

provisioning of tools, plus access to streamlined knowledge bases with clearly presented historical knowledge.

- **Streamline retirement and offboarding.** Exiting employees can have seamless deprovisioning and clear transference of financial obligations and accounts.

Operational Efficiency

- **Supply chain and order approval enhancements.** Automation allows for continuous monitoring of complex supply chains that AI can then help improve at breakpoints, sometimes even before the breaks happen.
- **ITSM Resolution.** AI Automation allows for improved system-to-system operability, mitigating or eliminating the costs of downtime or issues with API connections and authentication.
- **Designing products that are more efficient and effective.** AI-powered software and automated feedback helps design and engineering teams rapidly iterate on products.

How Does AI Automation Work?

To understand how AI automation works, it's helpful to delve into the technology that often powers it. Machine learning (ML), deep learning (DL), and natural language processing (NLP) are all components of AI automation. Below is a step-by-step explanation of how AI automation tools or software work when they're in action.

Data Collection

The journey begins with collecting data from different sources, such as customer and employee interactions, usage data, and system feedback. This data serves as the raw material for training the AI system.

Data Preparation

Once the data is ready, it's time to teach the AI system. The ML model is trained on prepared data. For instance, if the goal is to create a chatbot, then past chat transcripts are fed into the model. Through machine learning, the system learns patterns, associations, and the most effective ways to respond based on the training data. As part of training, you can use different machine learning algorithms, deep learning architectures, and NLP algorithms.

Execution

Once trained, the AI system is ready to intake the new data, whether it's customer inquiries, images, or sensor data. The system makes decisions based on the patterns learned from training data during the training process. AI Automation can then be used to refine and improve systems specific to your business, or even to your specific team.

Continuous Learning

AI automation doesn't stop at execution. It continuously learns and improves using new data, which refines the algorithm and enhances its capabilities. The cycle of data collection, training, and execution allows AI automation systems to become more accurate and efficient over time.

Benefits of Implementing AI Automation

Systems that implement AI Automation see improvements fast.

Enhanced Efficiency and Productivity

AI automation can help businesses automate tasks that are repetitive and time-consuming, reducing human involvement.

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Cost Reduction

AI automation helps reduce the operating costs in businesses significantly in the long run. Monotonous and time consuming tasks are automated with increasing speed and accuracy as the system learns, which saves labor cost. AI automation helps reduce the number of errors in any given process and constantly improves on iterative feedback, which can lead to continued cost savings.

Improved Customer and Employee Experiences

AI-powered chatbots and virtual assistance offer 24/7 customer support, improving the overall customer experience. Quick response and ticket resolution leads to higher employee satisfaction as well.

Data Analysis

Process automation is particularly valuable to data-rich systems. Pairing machine learning capabilities of AI with automation in data analysis allows for swift processing of vast amounts of data at lower error rates.

Challenges of Implementing AI Automation

AI automation offers several benefits, but there are also some challenges that businesses need to be aware of before implementing it.

AI models and AI workflows heavily rely on source data, and if the data used to train the model is of poor quality or insufficient, then it can lead to inaccurate outcomes

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Resistance to Change

AI automation can lead to significant changes in the way work is done, and this can lead to resistance from employees. Employees may be concerned about job security, or they may simply be unfamiliar with what an AI automated system can offer.

Lack of Skilled Workforce

Developing and maintaining AI automation systems requires a skilled workforce. Finding and retaining professionals with the necessary expertise in machine learning, data science, and AI can be a challenge.

Complexity of Implementation

The process of implementing AI automation can be intricate, involving various technologies, training phases, and data management. Managing this complexity while ensuring a smooth transition can be a significant challenge.

Getting Started with AI Automation

Automation is powerful because it streamlines processes, saves time, and reduces errors. AI provides the ability for systems to think and learn like humans, making sense of data and predicting outcomes at scale. Pairing the two supercharges outcomes. Here's how to start.

- **Start Small:** Don't try to automate everything at once. Businesses should always try to automate a few tasks or processes to adapt to the automation environment internally and get ready to serve customers and employees.

Choose the Right AI Tools and Technologies. There are a wide variety of tools and technologies to choose from, according to budget and specific needs. Cloud computing platforms provide businesses with the computing power they need without having to invest in their own infrastructure. Big data analytics tools like Pig and Hive can help businesses collect, store, and analyze huge amounts of data. ML and DL tools like Tensorflow, Pytorch, and Sklearn can help in training and deploying AI systems. But managing all these technologies on your own can be a tough task, which is where a tool like Workato can level up your business. Using Workato, organizations can automate business processes, connect disparate tech stacks, and easily integrate and iterate on data.

The Future of AI Automation

AI automation is a powerful pairing, where automation streamlines operations and AI brings intelligence to the table. Together, they amplify efficiency, productivity, and innovation, enabling organizations to adapt and thrive in an ever-evolving environment. AI automation is a transformative force that empowers businesses to work smarter, make data-driven decisions, and provide seamless customer and employee experiences. Tools like Workato help you harness the power of AI-driven integration and automation to make your work easier, faster, and smoother.

This post was written by Gourav Bais. Gourav is an applied machine learning engineer skilled in computer vision/deep learning pipeline development, creating machine learning models, retraining systems, and transforming data science prototypes to production-grade solutions.

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