



# Intelligent Automation: Boosting Bots with AI and Machine Learning



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## Introduction

Companies across all sectors have learned that they can transform their businesses by embracing Intelligent Process Automation, or IPA, which combines Robotic Process Automation (RPA) with AI to automate a myriad of back-office processes. By automating repetitive, mundane work, they free up their employees to spend more time on higher value work, such as providing a better customer experience and finding more efficient operations.

Yet, while RPA works well to automate an employee's rote responsibilities, many organizations struggle to scale to hundreds of production bots when automation is not coupled with AI and machine learning tools. With the pairing of AI and RPA, IPA adds a new layer of intelligent decision-making processes to automated tasks that standard RPA tools lack.

In addition, IPA allows organizations to see ROI that is often in the triple-digit percentages, according to a [McKinsey study](#). But in order to reap these kinds of rewards, organizations must first educate themselves and prepare for the adoption of IPA. Let's take a closer look at how we define each of these technologies.



## What is RPA?

Robotic Process Automation, or RPA, is software that automates routine tasks, such as data extraction and cleansing, using business logic and structured inputs to automate business processes. RPA integrates multiple systems behind a single pane of glass and orchestrates these to the needs of a business process. It is programmed to perform basic, repetitive tasks across multiple applications, mimicking human workers performing redundant tasks. This could be anything from repeating simple point-and-click actions to handling data across many applications, like extracting warranty information from an email and attaching it to the right customer relationship management (CRM) record.

Routine work comprises a pattern of well-structured activities: do this; then do that; and if this occurs, then do that. In modern back and middle offices, routine work typically involves a person working across multiple computer systems to complete tasks such as cutting and pasting, and checking that the values for product codes add up correctly. A real-world example is a service representative talking to a customer and taking orders in real time, while using four different applications: product catalog, CRM, store locator and warehouse stock control.



## What is AI?

Artificial Intelligence, or AI, is a computer system that is able to perform tasks that ordinarily require human intelligence. Many AI systems are powered by machine learning, some by deep learning specifically, and some are powered simply by rules.

AI systems powered by machine learning enable companies to leverage large amounts of available data to uncover insights and patterns that would be impossible for any one person to identify, enabling them to deliver more targeted, personalized communications, predict critical care events, identify likely fraudulent transactions, and more.

## What is IPA?

Intelligent Process Automation, or IPA, combines fundamental process redesign with RPA and AI. These next-generation tools assist the knowledge worker by removing repetitive and routine tasks, thereby simplifying interactions and speeding up processes. IPA mimics activities carried out by humans and even learns to do them better, as it can eliminate errors caused by human oversight. Thanks to advances in deep learning and cognitive technology, IPA enhances traditional automation and decision-making capabilities to increase efficiency and worker performance, reduce operational risks, and improve customer response times.

The combination of AI and RPA adds up to IPA, which includes the likes of process management software, natural language processing, and cognitive agents, or bots.



RPA can be a very valuable tool for everyone. But the key to making it into true intelligent automation is to connect the hands (RPA) with the head (AI).





## Steps to Realize the Value of IPA

With the promise of double or triple-digit percentage returns from IPA, it is understandable that many executives would wonder if these returns are too good to be true. But what is clear is that the companies that don't implement Intelligent Process Automation will be left behind. In fact, [Gartner estimates](#) that by 2023, there will be a 30% increase in the use of RPA for front-office functions, such as sales and customer experience. Clearly, companies are realizing the benefits of automation and, therefore, planning more investment.

Many organizations underestimate the complexities of these initiatives and what it takes to scale up. Even though the technology is relatively straightforward, making sure that IPA works for your business and fits seamlessly into your operations is essential to ensuring success. **Towards this end, there are certain steps that you should take in order to scale appropriately:**

### Invest in centers of excellence.

1

With governance structures in place to support the deployment of IPA solutions, a center of excellence can help you sustain the value that your IPA solution creates. By creating a centralized location with blueprints for future success, you can build on your team's capabilities and offer them training to understand why and how IPA will make both their jobs and the company more efficient.

### Plan for change management.

2

As you implement IPA and scale up your initiatives, some employees may worry that this technology may replace their jobs. Stress that the change actually opens up great opportunities for your employees to learn new skills and build on existing knowledge. Institute an employee education program that can both propel your business forward and enhance employees' skills.



3

**Assess risks proactively.**

Any new solution will introduce risk into your organization. Work with your IT team to be ready for security audits that will catch problems ahead of time.



4

**Build a roadmap.**

In order to reach your destination of realizing significant ROI, you need to have a roadmap that shows where to start and how to get to your destination. By identifying which inefficient processes you want to replace, you will set yourself up for long-term success.



5

**Understand AI basics.**

There are many different categories for AI with each of the functionalities being useful for specific problems, such as OCR, process mining, chatbots, and computer vision, along with predictive algorithms, natural language processing, and deep learning. Companies now have so many different tools and solutions to use when solving their biggest problems, thus defining the problem is critical.



6

**Collaborate on IPA adoption.**

Oftentimes, the biggest hurdle to bringing IPA capabilities into organizations is adoption by the business users. If business users do not trust the automation or the predictions, they are less likely to act upon the results, meaning the IPA solution creates little to no value. To overcome this hurdle, automation CoEs and data and analytics teams should collaborate to solve the business problem together. This holistic approach will drive value-based KPIs and show higher ROI than simply building one-off solutions.



7

**Understand IPA lifespan.**

Over time, RPA automations and ML models can lose their value due to process engineering, system updates, or drift in accuracy and data. IPA solutions need to be monitored to make sure the performance is meeting business end users' expectations. It's good practice to periodically retrain machine learning models with new historical data to continue to improve upon predictions, helping the business continue to retain confidence in the solutions' outcomes.





## Common IPA Use Cases

Armed with the knowledge of what IPA is, and what to consider when implementing IPA, the next piece to consider is the art of the possible. The following examples are real-life use cases that have been successful in helping companies realize their ROI, enhance their bottom line, and increase efficiencies by implementing IPA.

- Risk Scoring for Accounts Receivables
- Automated Patient Case Management
- Email and Ticket Classification Routing
- Loan Repayment Likelihood
- Resume Screening for Open Reqs

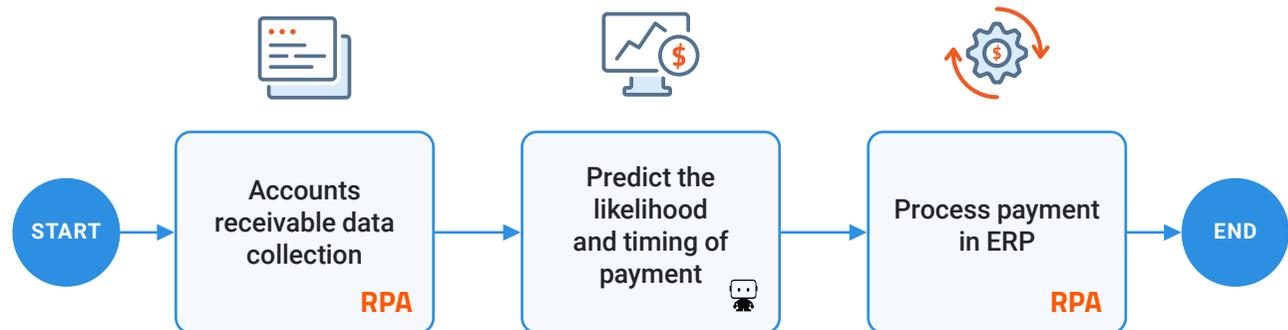


## Risk Scoring for Accounts Receivables

### CHALLENGE:

Organizations provide accounts receivable data from their customers. Knowing the timing and likelihood of a payment is important for the company's balance sheet. After the payment is received, companies typically manually process each purchase in their ERP.

### IPA SOLUTION:



### RESULTS:

IPA is able to automate the collection of the accounts receivable data and predict the likelihood and timing of payments. This reduces the risk on the company's balance sheet. IPA is able to take the account receivables and process the data entry into the ERP.

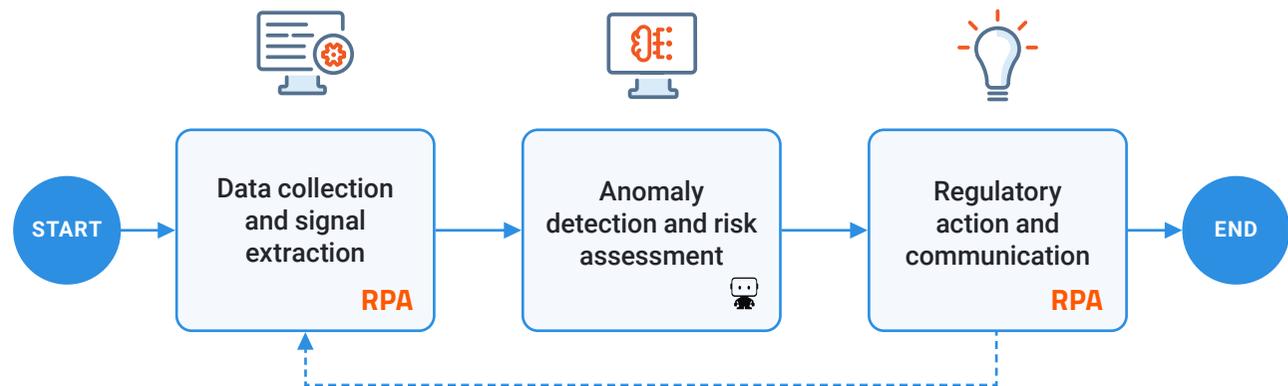


## Automated Patient Case Management

### CHALLENGE:

Many steps in the patient case management process are manual and involve judgement decisions on which cases are more serious than others. Medical staff can end up spending the majority of their time identifying serious cases to assign and act upon.

### IPA SOLUTION:



### RESULTS:

IPA improves accuracy and reduces the number of misclassified serious cases. The IPA process increases the case management productivity for highly skilled medical staff.

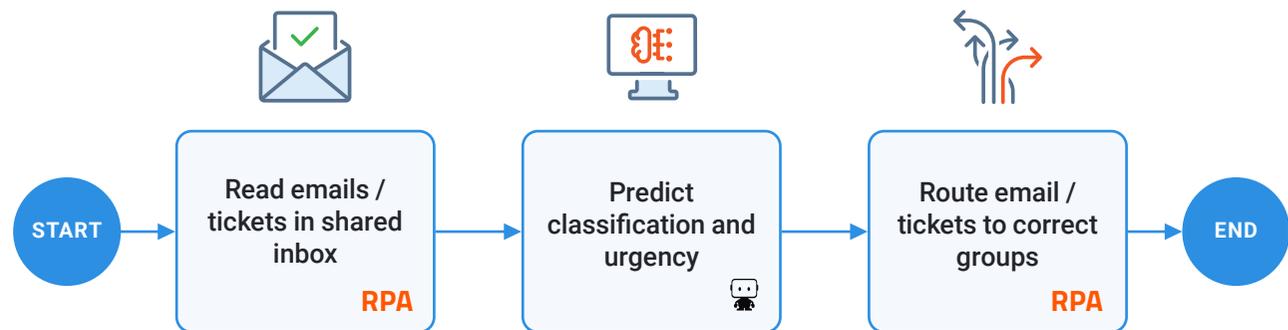


## Email and Ticket Classification Routing

### CHALLENGE:

Many inbound customer communications come into a common email queue. Customer queries not only take time to read and reroute, but they are often poorly prioritized due to human error, resulting in inconsistent and often slow customer service through a critical touchpoint.

### IPA SOLUTION:



### RESULTS:

IPA offers a significant reduction in email communication turnaround time that results in better customer service. If each email/ticket takes on average 1-2 minutes to assign and route, the ROI can add up quickly, especially when receiving hundreds or thousands of communications per day.

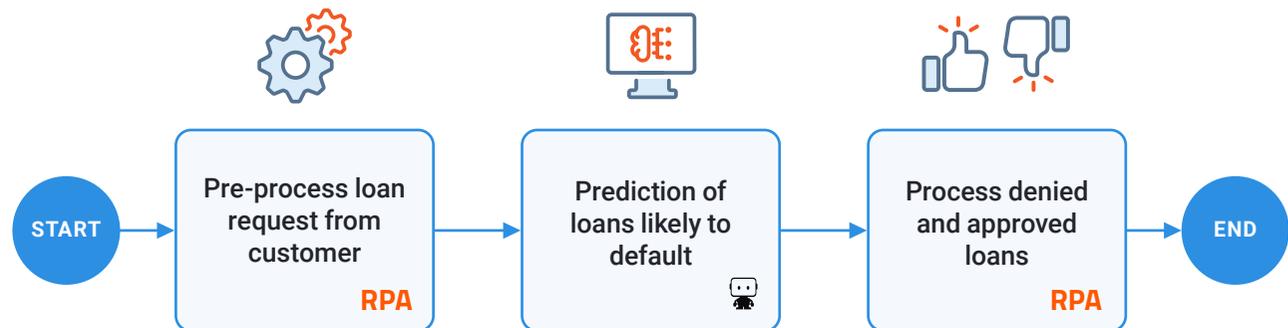


## Loan Repayment Likelihood

### CHALLENGE:

Companies providing loans to customers need to determine the likelihood of loan repayment. As such, loan processing teams typically spend most of their time processing loans in systems that require manual and repetitive work.

### IPA SOLUTION:



### RESULTS:

With IPA, we can now predict if a new loan will likely default in the future with more accuracy and less manual work. We can use RPA to collect the loan application data and process those new loans into all the organizational systems to speed up the process, while machine learning assesses each loan application and chances of default based on historical information from past applicants.

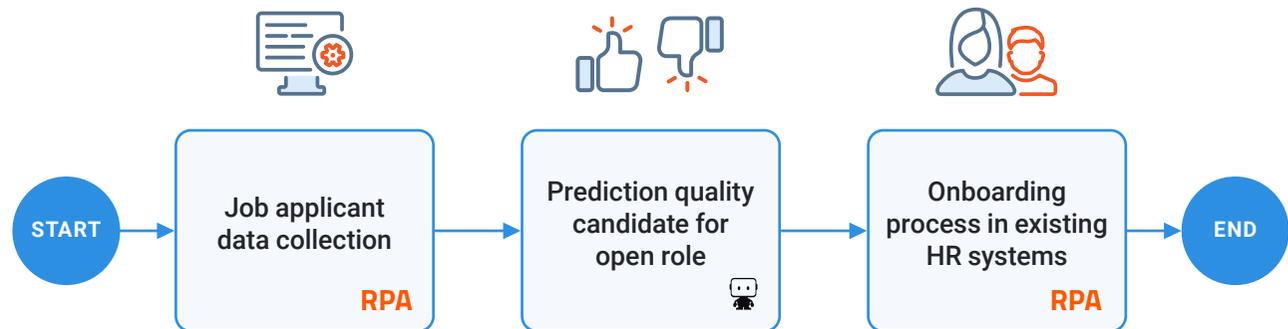


## Resume Screening for Open Reqs

### CHALLENGE:

Open job requisitions can easily get hundreds of applicants a week. The challenge for the hiring team is knowing which of these applicants are a fit for the job in an efficient manner. Spending countless hours reading cover letters and resumes is not only stressful, but it slows down the process of filling the job req quickly and with the best options.

### IPA SOLUTION:



### RESULTS:

IPA is able to analyze the resumes of each of the job applicants and make recommendations on which candidates best fit the job. After an applicant accepts an offer, RPA can automate the process to collect and update information within a company's existing HR systems (SAP, Workday, etc).



## Conclusion

Work that suffers from the three Rs – Routine, Repetitive, and Rules-driven – now has a solution. IPA combines RPA and AI to assist the knowledge worker with the likes of increasing efficiency, reducing operational risks, and improving customer response times. With IPA, employees can focus more on strategic goals and do more meaningful work.

Organizations that have embraced IPA have seen their organizations transformed. They gain efficiency and accuracy by handing off repetitive tasks to bots and allowing them to collect, structure, and label data. As more data is trained and examined, the intelligence of the system evolves and improves. And with humans, robots, and systems all working in sync, organizations find that they see exponential returns from their investment in IPA.

**Please contact [IPA@datarobot.com](mailto:IPA@datarobot.com) to learn more.**



## DataRobot

DataRobot is the leader in enterprise AI, delivering trusted AI technology and enablement services to global enterprises competing in today's Intelligence Revolution. DataRobot's enterprise AI platform democratizes data science with end-to-end automation for building, deploying, and managing machine learning models. This platform maximizes business value by delivering AI at scale and continuously optimizing performance over time. The company's proven combination of cutting edge software and world-class AI implementation, training, and support services, empowers any organization – regardless of size, industry, or resources – to drive better business outcomes with AI.

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