UiPath | Reboot Work.™

Bringing the Power of AI and RPA Together with AI Center
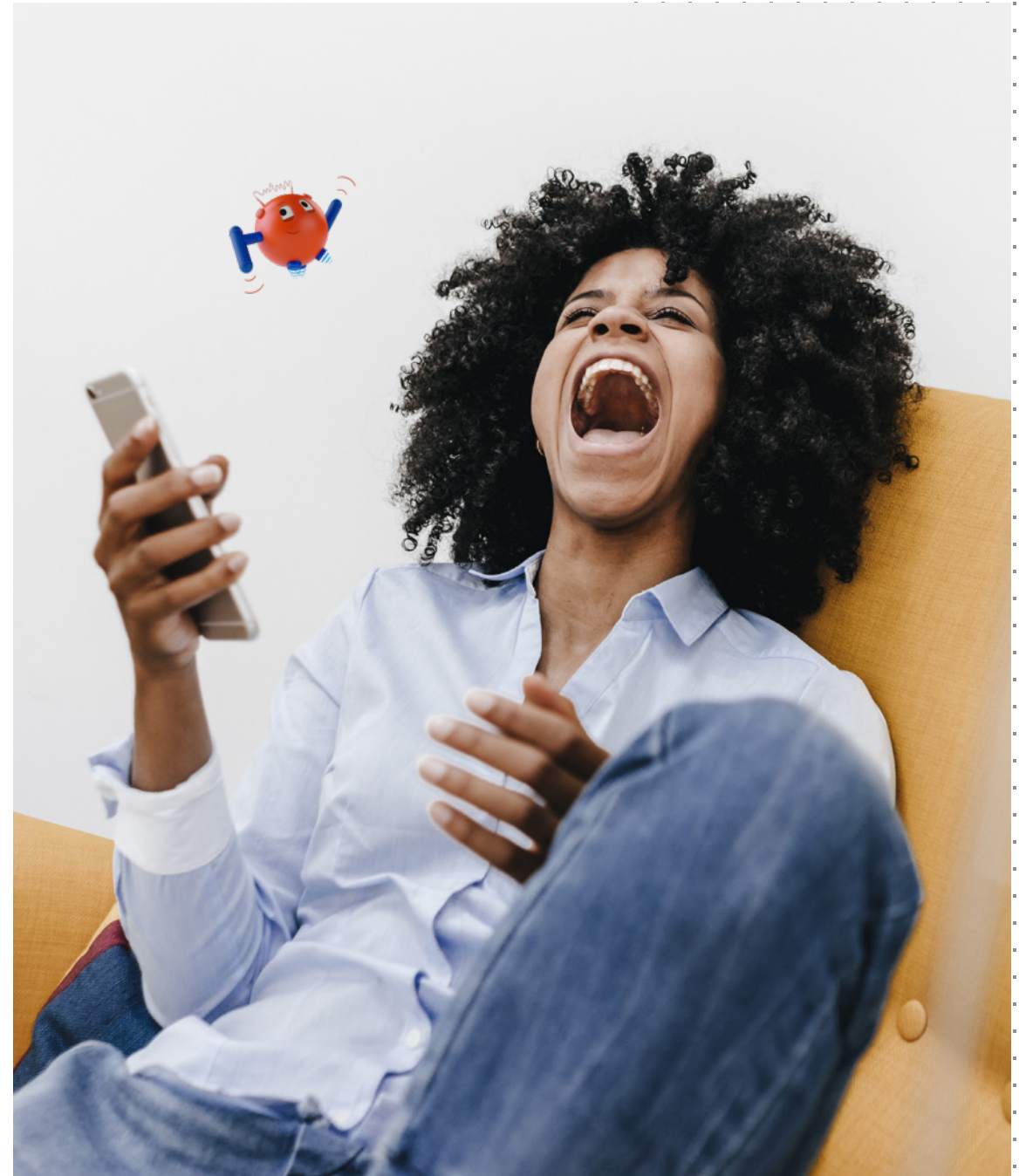
Contents

Introduction

We've all had a job where monotonous tasks got in the way of more enjoyable, meaningful work. Maybe it was updating monthly report data, or manually recording inventory. Whatever it was, it was time-consuming, not much fun, and did not drive meaningful business outcomes.

Thankfully, there are technology solutions that can take these tasks off our hands.

Robotic Process Automation (RPA) eliminates tedious work by having software robots complete repetitive, white-collar tasks. This frees up time for teams to devote to work that provides greater value to the business.

While RPA can easily capture data and manipulate applications like a person would, more complex and advanced tasks were previously out of reach. This is where artificial intelligence (AI) comes into play.

AI enables software robots to learn how to read, write, listen, recognize patterns, and make complex decisions. AI, together with machine learning (ML) and other advanced technologies, expands automation capabilities and accelerates decision making.

Here at UiPath, we power AI-enhanced automations through a product called AI Center. When a 500-bed hospital used AI Center to enhance their automation workflows, manual paperwork was reduced by 90% and $26 million was saved.[1]

Not only does the combination of AI and RPA save companies time and money, but it also helps decrease the risk of error. No one wants to be the employee who accidentally pushes a wrong button and incurs a 61 million dollar fine.[2]

If the benefits of AI and RPA together are so compelling, why haven't all companies embraced them yet? The problem lies in both the disparate tools and the silo between RPA and Data Science teams.

In this whitepaper, we'll explore the challenges and benefits of applying AI to automation. We'll also explain how AI Center helps to make this process quick and easy.

First, what is AI?

We know AI is a new topic for many people, so let's start off by defining it. **AI refers to decision-making capabilities displayed by computer programs.** This intelligence can take a variety of forms. AI can be as simple as a spam filter for your mailbox or as complex as an algorithm that detects potential health complications in patients.

While we often think of AI as a futuristic technology for revolutionary changes to our personal lives such as autonomously driving cars or virtual assistants, AI also has many uses in business.

Uber uses AI to determine rideshare fares. Netflix uses AI to decide what movies you see in your recommendation queue.[3] BMW uses AI for quality inspection.[4] According to a 2017 survey by Deloitte, 51% of business executives cited, "Enhancing the features, functions and performance of our products," as a benefit of AI in their business.[5]
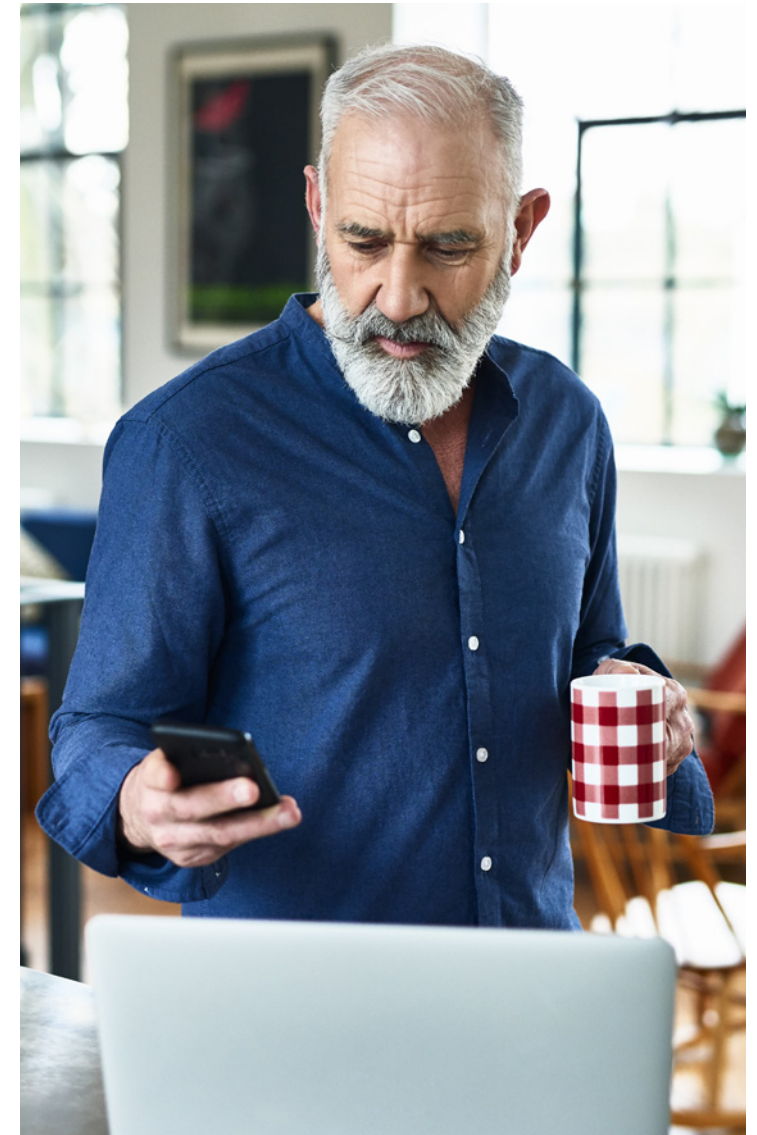
AI Center helps you orchestrate all moving pieces of AI: deploy, consume, manage, and improve machine learning models.

Why do you need AI in automation workflows?

RPA allows for repetitive tasks to be completed at scale, freeing up resources and helping to mitigate risks. As impressive as these benefits may be, businesses can see even greater results when they enhance RPA with the power of AI. AI enables companies to automate processes with characteristics that would have been impossible with RPA alone. **Here are some examples:**

Determine the uncertainty

Use cases where the outcome can't be determined with 100% certainty. Examples include valuing a property, assessing the risk of a loan default, and forecasting inventory. When valuing a property, many factors are considered, such as the age of the house, the location, and the amenities available. Each value criteria needs to be assessed against each other to predict an accurate value. Previously only humans could make complex estimations like these, **but AI now allows robots to accurately determine the results of advanced, uncertain equations.**

Automate highly variable work

Processes that have too much variability and many dependencies are not well suited to rules. For example, resume matching and purchase decisions are both loaded with variables. When matching resumes against job postings, there can be significant fluctuations in the skillsets and experiences of job applicants. Recruiters need to sift through this information and manually match applicants to the correct job positions. Using AI, robots can **automatically match applicants' skill sets and resumes to relevant job postings.**

Process unstructured data

Information like articles, documents, images, videos, and emails are unstructured. AI enables automatic processing of these documents at scale. Unstructured data is often poorly suited to rules-based automations because of the significant differences found from sample to sample. But when enhanced with AI, robots can **learn to recognize patterns in unstructured documents** and then accurately process the information within them. The result is quick, efficient, and accurate document processing.

AI brings RPA to a new level, opening a world of new opportunities for business growth, cost reduction, and improved productivity. With AI-enhanced automations, businesses can make accurate predictions of sales for a given timeline; and predict which customers are at risk of defaulting on a loan.

> "When you start to use AI in the various ways that UiPath offers, it really broadens the type of process that you can go after from an automation perspective."
>
> **David Johnston,**
> Intelligent Automation and Process Excellence Manager, Heritage Bank

Why an AI solution at an automation company?

Despite all of AI's benefits, many enterprises are still struggling to implement and scale AI. Lack of key talent, organizational barriers,[6] data quality, privacy concerns, difficulty in identifying use cases, and integration complexity are listed as some of the top challenges of AI adoption.[7]

AI Center helps solve the challenge of integration complexity and organizational barriers, putting AI into the right business processes. When AI is added to a specific step in an automation, the robot asks AI for a prediction, supplying any required data from the process. When the prediction is returned, the robot acts on the results and continues the process to completion. The robot is acting as the delivery vehicle of AI.

Because AI-enhanced automations have a unique set of needs, using the right delivery vehicle is critical to success. They require a delivery vehicle that gives visibility into both automations and ML models and it needs to allow for easy interaction

with human workers for validation and correction. AI Center was purpose-built to meet these needs.

Another AI adoption challenge AI Center helps solve is organizational barriers—getting AI experts and automation specialists to work collaboratively rather than in silos.

In many organizations, the ML models painstakingly crafted by data scientists are underutilized or ignored because business users don't know how to integrate the models into their day-to-day business processes. Valuable

opportunities and competitive advantages are lost.[8]

At the same time, RPA developers who develop workflows for process automation struggle to automate more complex and cognitive processes.

This is where AI Center comes in.

AI Center bridges the gap between the two teams. Now, data scientists know how their models are used in production and RPA developers know which models are available and when they are updated.

RPA and AI
The Hands and the Head

When conceptualizing RPA and AI, it can be helpful to think of AI as the brain, and RPA as the hands. A disconnected brain can dream up concepts, but without hands it can't apply them. At the same time, hands without a brain can't handle advanced processes. It's when the two are combined that advanced tasks can be completed.

"We've found that even if you have the best data possible and you have the best predictive analytics model on top of that, the automation piece is critical for getting that information to the patient and affecting patient outcomes. You really can't move the needle on delivering better outcomes unless you have those three things together."

Jeff Hatfield
VP of Client Solutions, Amitech

AI Center

AI Center helps you orchestrate all moving pieces of AI: deploy, consume, manage, and improve machine learning models.
With AI Center, you can easily bring AI to your automations. You can manage your models and track their progress. You can engage with models and validate predictions, increasing model accuracy over time.

Easily deploy your models →

AI Center abstracts the complexity of deploying and scaling AI in production. A user can upload their own models or use the range of out-of-the-box models from UiPath, our partners, or from the open source community, and deploy them in a scalable production environment with only a few clicks.

The easy-to use interface means data scientists and RPA developers spend less time on development operations and engineering and more time on solving business challenges.
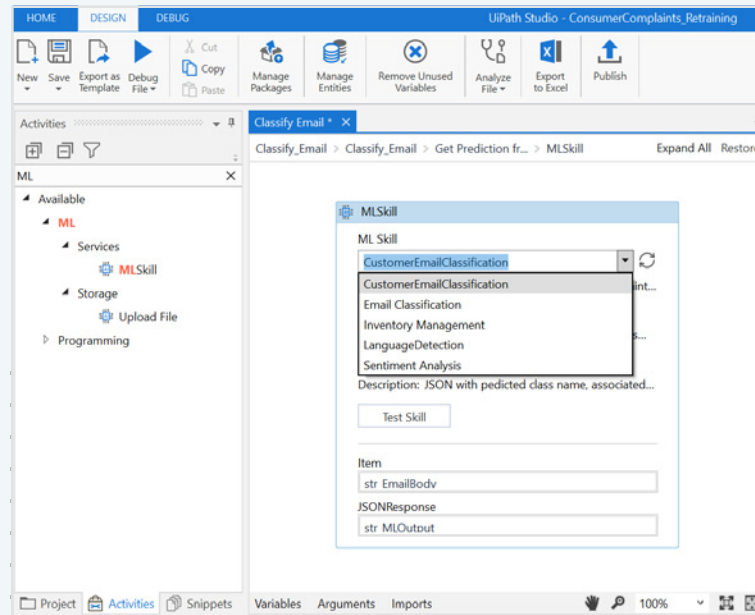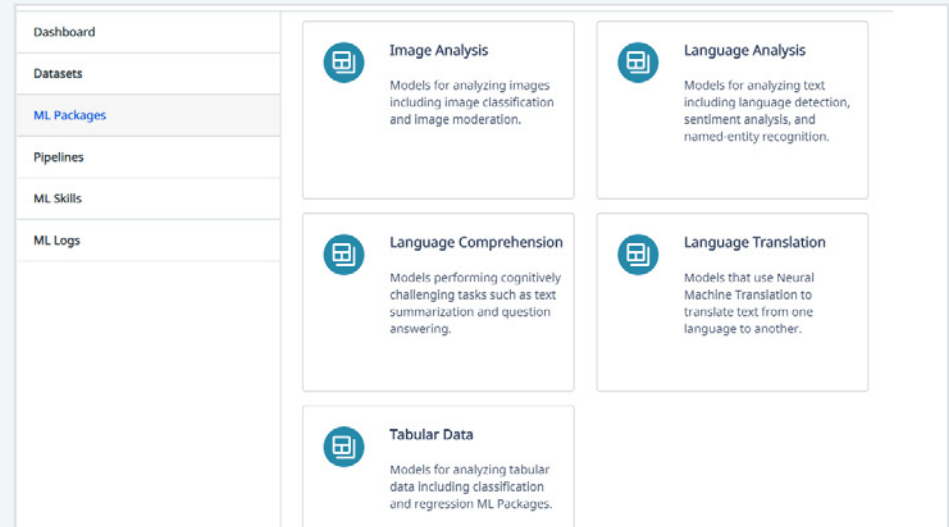
← Drag and drop your ML models into automations

Injecting ML models into automations is easy with our simple drag-and-drop interface. You can choose your ML model and drag-and-drop it into any of your workflows right in UiPath Studio. A drop-down menu displays all the model options. This simple process gets your ML models into production right away.

As your ML models are trained on data, they recognize patterns and make predictions. This increases the automation capacity, allows you to automate tasks of much higher complexity and cognitive requirements, leading to improved productivity and efficiency across your business.

Another benefit of using AI Center is that your data science team no longer has to spend time routing service endpoints for each ML model. This frees up time, resources, and energy so data scientists can focus on creating effective and productive ML models.

Monitor and manage your models →

AI Center allows you to view ML model consumption at the tenant level. You can update your models to a new version and roll back to an older version if you need to.

Using AI Center doesn't just boost awareness and understanding among data scientists and RPA developers, it's also a fantastic tool for business users and leaders. Being able to see your models and automations in action through the same product gives you insights into what's working for your business, and the benefits that you're receiving. Executives can now prove the return on investment and ensure regulatory requirements are satisfied.
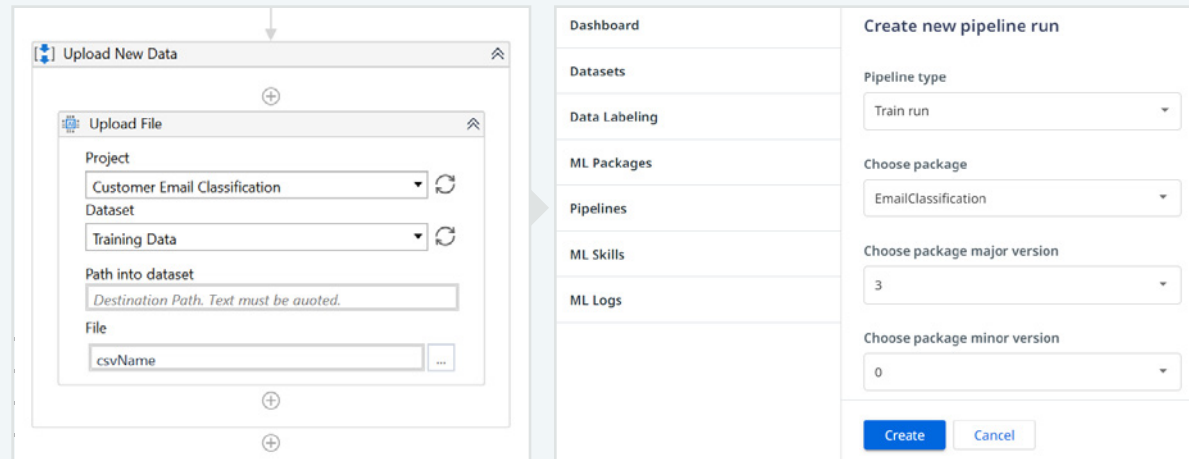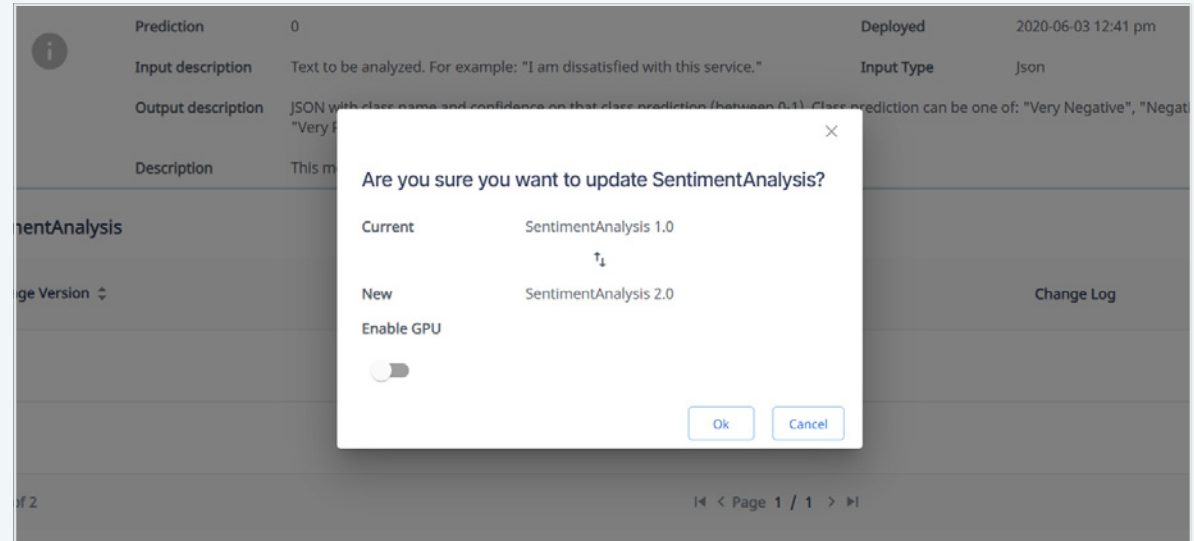
← Constantly make your models smarter

The power of AI Center is revealed over time as your models improve through human validation and further learning.

Human users validate low-confidence predictions made by the model and reroute incorrect predictions for retraining. This housekeeping helps improve the accuracy of your models, thereby increasing the potential for your automations.

It's also important to note that your ML models are best when working with the most relevant data. The data you used to train your models months or even years ago, is not going to be as valuable as the data you received yesterday. Good data hygiene is important to keep your ML models operating at peak efficiency.

As your ML models grow and learn, their ability to handle exceptions and make better decisions will improve, resulting in better results over time.

Conclusion

RPA brings efficiencies and increased productivity. Integrating AI allows for automation of more cognitive and complex tasks. Your automations can go from reading emails, to sorting and classifying them. RPA may allow you to process structured documents; adding AI takes the automation even further, making accurate predictions based off automated document processes.

AI Center doesn't just make AI implementation easier; it lets you automate more, expanding your automation scope to include sophisticated business processes and broader use cases.

Supercharge your automations with AI Center today by trying **out-of-the-box models**, which are very easy to use and don't require data science knowledge.

Learn more about AI Center ❯

AI Center eliminates the most common challenges faced by companies and enables them to:

Easily deploy your models	**Drag and drop models into an RPA workflow**
Constantly make the models smarter	**Monitor and manage the models**

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