

# UiPath 2021.4 FTS Release Partner Technical Mastermind India & APAC







Session 2 of 6:  
AI Center and Document Understanding  
**The webinar will start soon!**

29 Apr 2021



# 21.4 Partner Enablement Plan

### Here's a quick look at our schedule

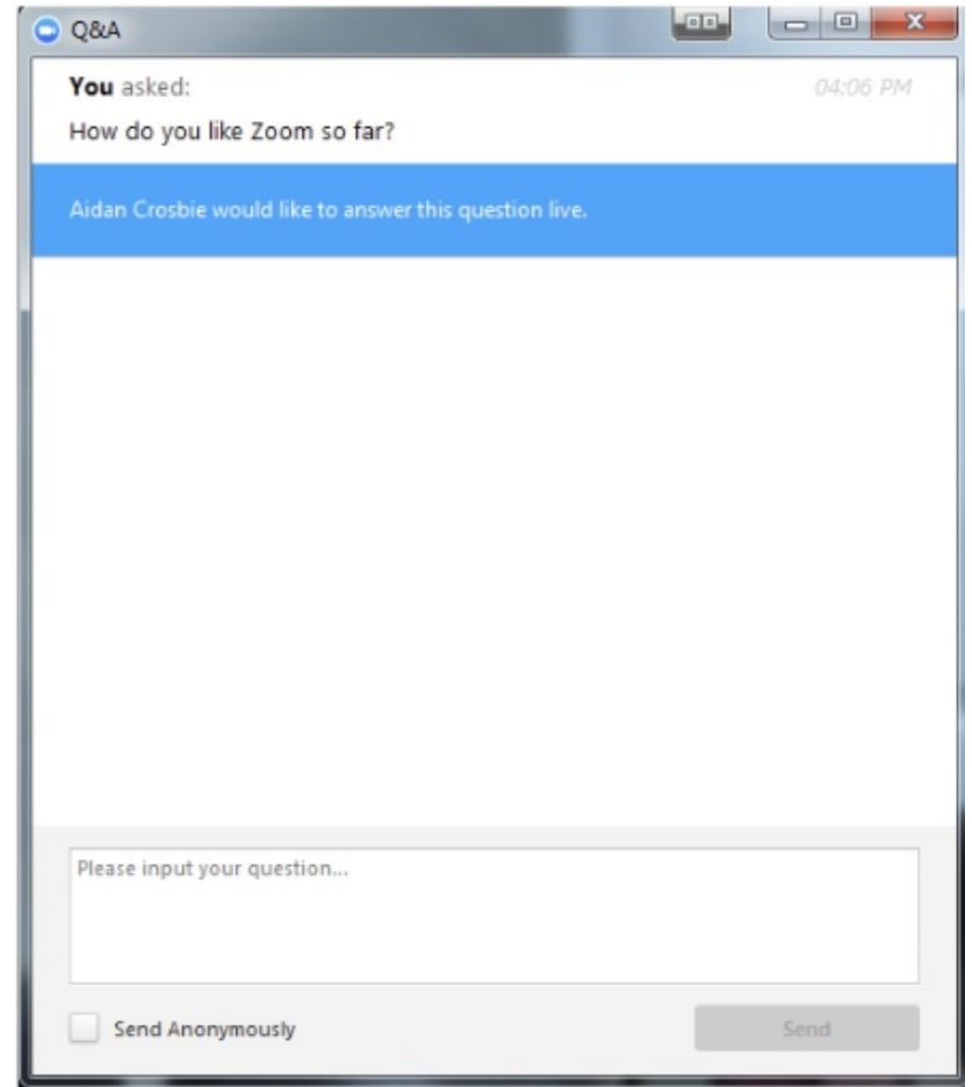
 <b>Desktop Products</b> Explore the latest features of the Studio family, Robots and the UiPath Assistant <hr/> <p>April 27, 2021 11:30am IST / 2:00pm SGT</p> <p><a href="#">Register Now →</a></p>	 <b>AI/ML</b> Enhance your automations with AI <hr/> <p>April 29, 2021 11:30am IST / 2:00pm SGT</p> <p><a href="#">Register Now →</a></p>	 <b>Test Suite</b> Find out about the latest features on RPA and Software testing <hr/> <p>May 4, 2021 11:30am IST / 2:00pm SGT</p> <p><a href="#">Register Now →</a></p>
 <b>Apps, Activities, Connectors</b> Start deliver engaging experience using UiPath's low code-app builder <hr/> <p>May 6, 2021 11:30am IST / 2:00pm SGT</p> <p><a href="#">Register Now →</a></p>	 <b>Process Understanding</b> AI-powered discovery and prioritization of the most impactful automations <hr/> <p>May 11, 2021 11:30am IST / 2:00pm SGT</p> <p><a href="#">Register Now →</a></p>	 <b>Cloud Services</b> Rapid expansion of the UiPath Automation Cloud(™) capabilities <hr/> <p>May 12, 2021 11:30am IST / 2:00pm SGT</p> <p><a href="#">Register Now →</a></p>

## Quick Housekeeping notes

- Please enter your question in the Q&A box.
- We will address the questions along the way, at the end of the presentation or by follow up email.

### FAQ: Is this webinar recorded?

Yes, this session is recorded and will be posted on the same page where you registered for attending.



# Key Themes in the 21.4 FTS release

- 01** Enterprise-scale management and governance of your automation program
- 02** AI-powered discovery, prioritization and integrated development of the most impactful automations
- 03** Upgrades for all user experiences from everyday business users to professional developers
- 04** Rapid expansion of Automation Cloud capabilities



# Last decade was about consumer AI. It's now entering the workplace

2010s



2020s



## In the 2010s

AI first reached us through consumers products

## RPA Expands to AI

“By 2022, 80% of organizations that deployed RPA will introduce AI ...”

- Gartner

## Cost Savings

Intelligent automation proven to cut business process costs on average

-Deloitte

## RPA Growth

By 2023, 90% of large organizations will have deployed some form of RPA

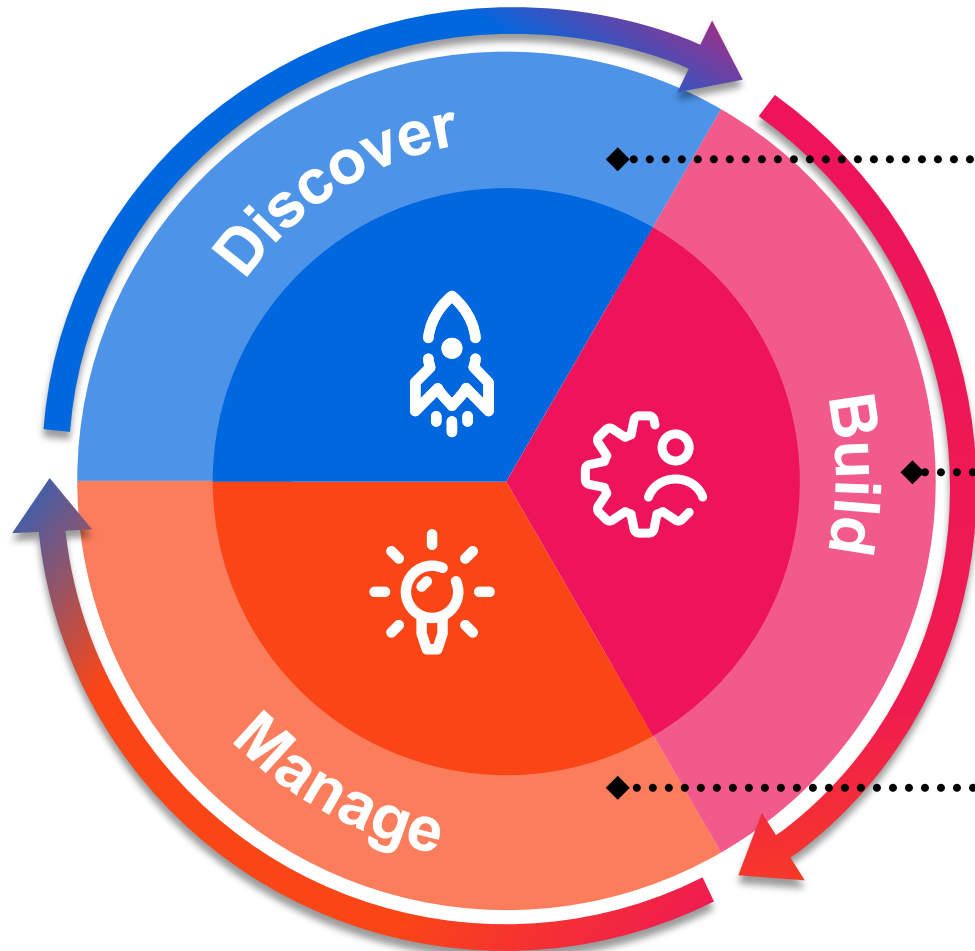
-Gartner

## Productivity Increase

AI contribution to global economy up to \$15.7T by 2030

-PwC Research

# Practical AI enabled by UiPath hyperautomation platform



## Scientifically identify automation opportunities



Process Mining



Task Mining Preview

## Teach your robots new AI skills



Document Understanding



AI Computer Vision



Conversational Understanding



Custom skills



Ecosystem Skills

## Apply, scale, and manage AI



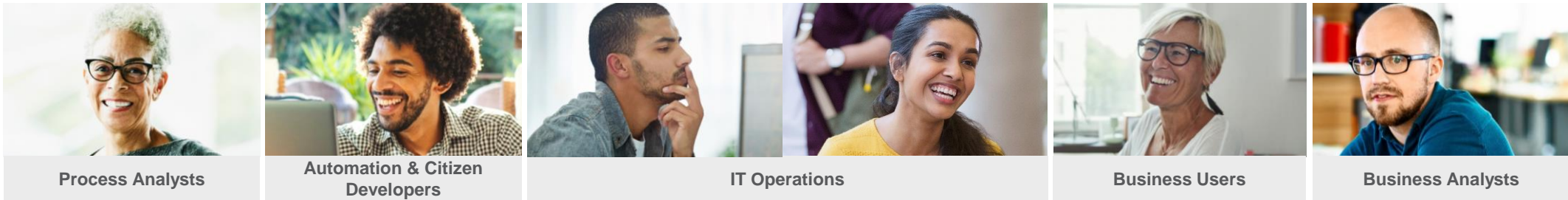
AI Fabric









Action Center

# The UiPath Platform enables the fully automated enterprise


## End-Users



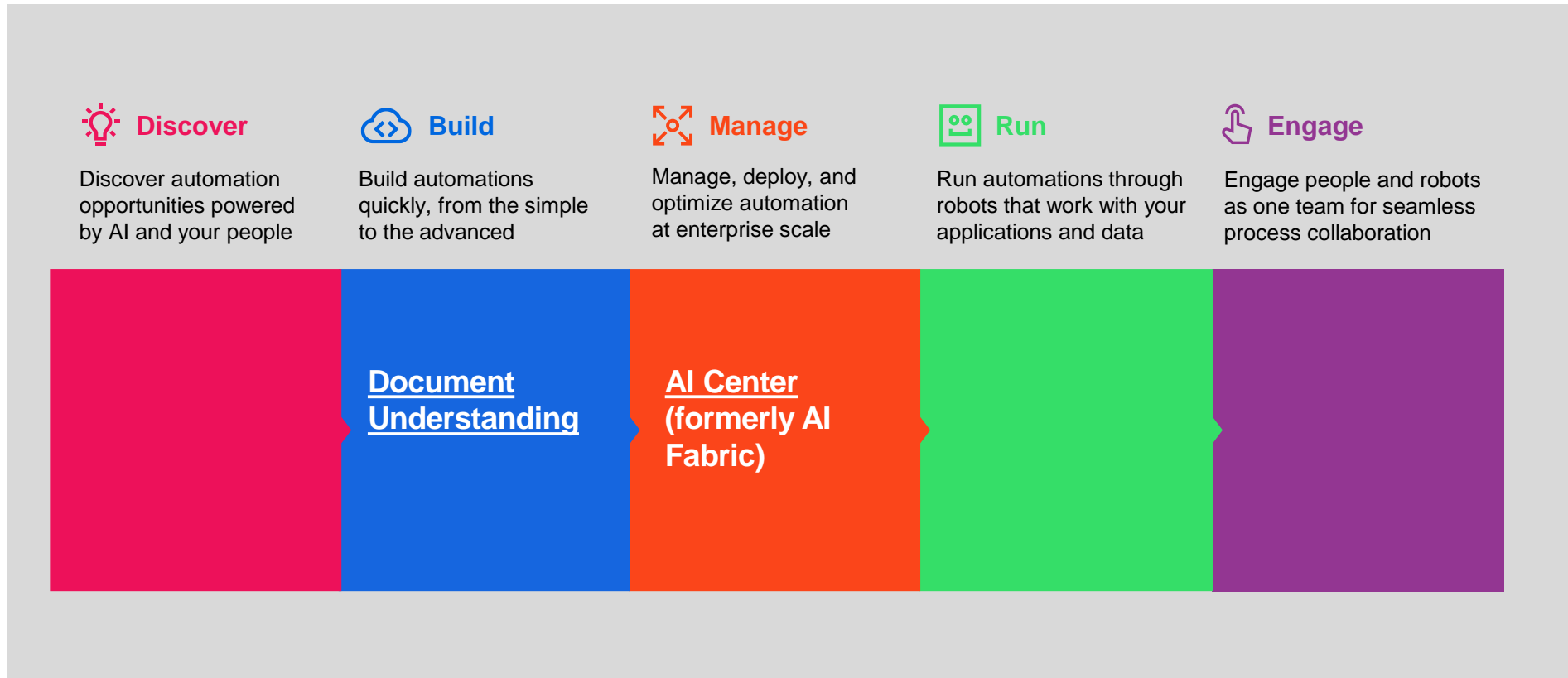
## UiPath Automation Platform

 <b>Discover</b> Discover automation opportunities powered by AI and your people	 <b>Build</b> Build automations quickly, from the simple to the advanced	 <b>Manage</b> Manage, deploy and optimize automation at enterprise scale	 <b>Run</b> Run automations through robots that work with your applications and data	 <b>Engage</b> Engage people and robots as one team for seamless process collaboration	 <b>Measure</b> Measure operations and performance to align with business outcomes
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## Existing Applications

DocuSign	slack	Example Systems of Record: On-premises and SaaS applications				alteryx	Mainframe applications	Homegrown applications
SIEBEL	salesforce	workday.	Office 365	ORACLE	servicenow.	SAP	Epic	
			coupa					

Expedite automation time-to-value and ongoing ROI across the entire lifecycle





# AI Center & Document Understanding

## 2021.4 Release

Technical Webinar



1

# AI Center

# AI Center Agenda

- 01** What is AI Center?
- 02** “Automate More!” and Key Differentiators
- 03** ML Overview and UiPath Starter AI Models
- 04** AI Center and Other Products
- 05** New in 2021.4 Enterprise Release
- 06** AI Center Flavours
- 07** Licensing & Pricing

# AI Center Agenda

01

## What is AI Center?

- Define AI Center



# Operationalize AI with drag and drop ease

1 Choose a model

2 Build an ML Skill in **UiPath AI Center**

3 Drag and drop ML Skill into RPA workflows in **UiPath Studio**

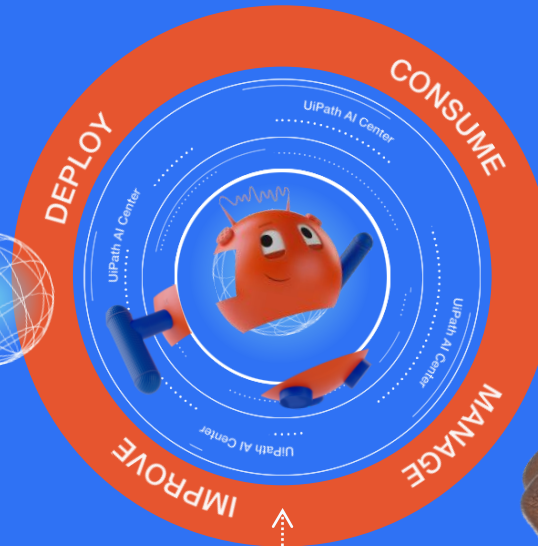
Choose a pre-built model  
From UiPath



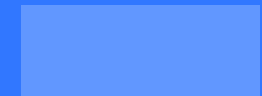
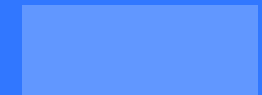
Bring your own model  
From your data science teams



Pick a model  
From UiPath partners



Retrain the model



(Humans) Validate exceptions



# AI Center Agenda

01

## What is AI Center?

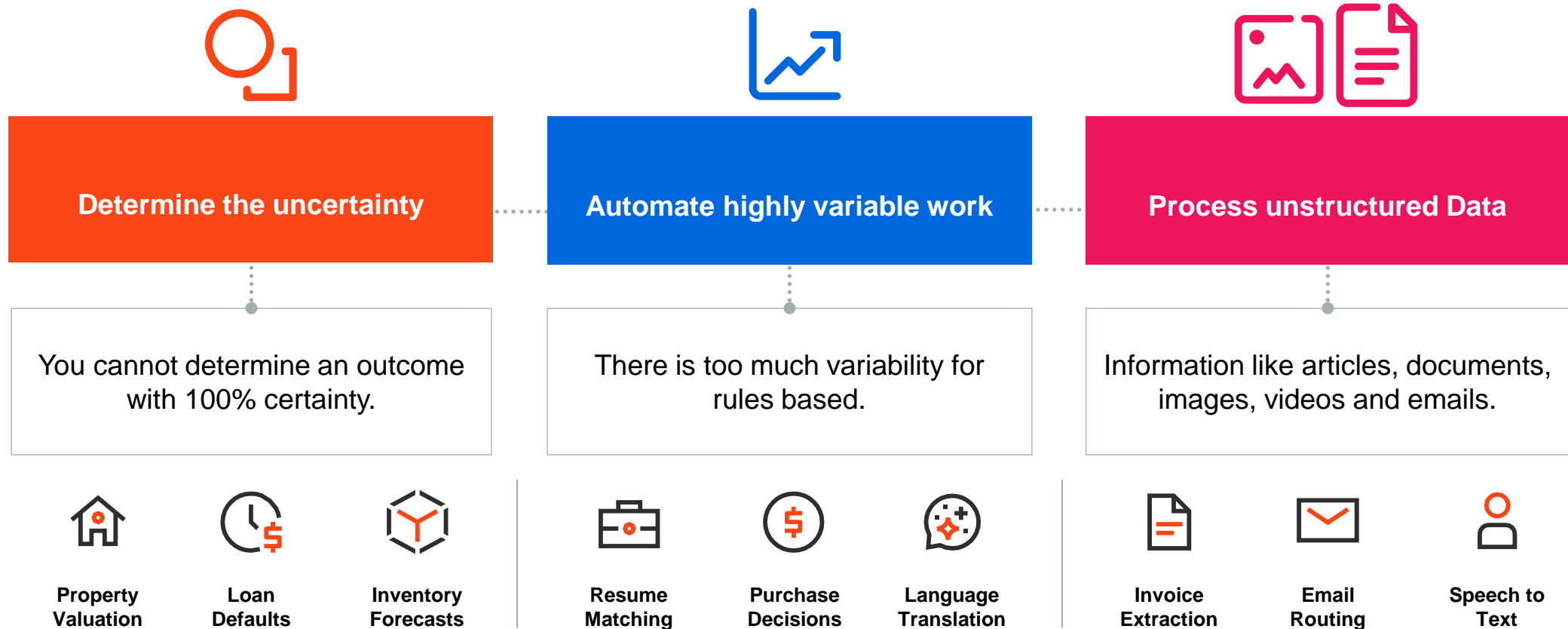
- Define AI Fabric

02

## “Automate More!” and Key Differentiators

- Why you need AI in automation workflows
- What are the key differentiators

# Why do you need AI in automation workflows? Automate More!



# AI Center Key Differentiators

Automate more

Bring your own  
models

Models from  
UiPath and  
partners

Constantly  
improve ML  
models with  
retraining

Multiple  
deployment  
options

Deep integration  
with other  
UiPath products



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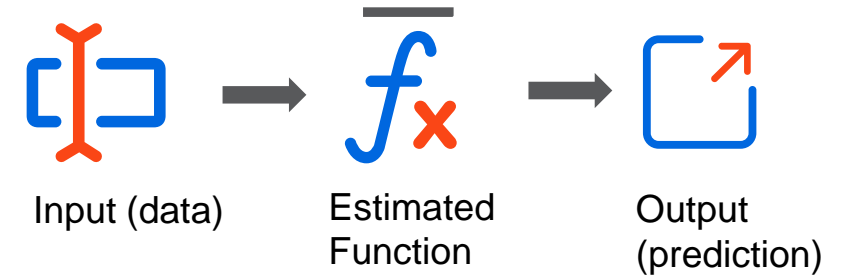
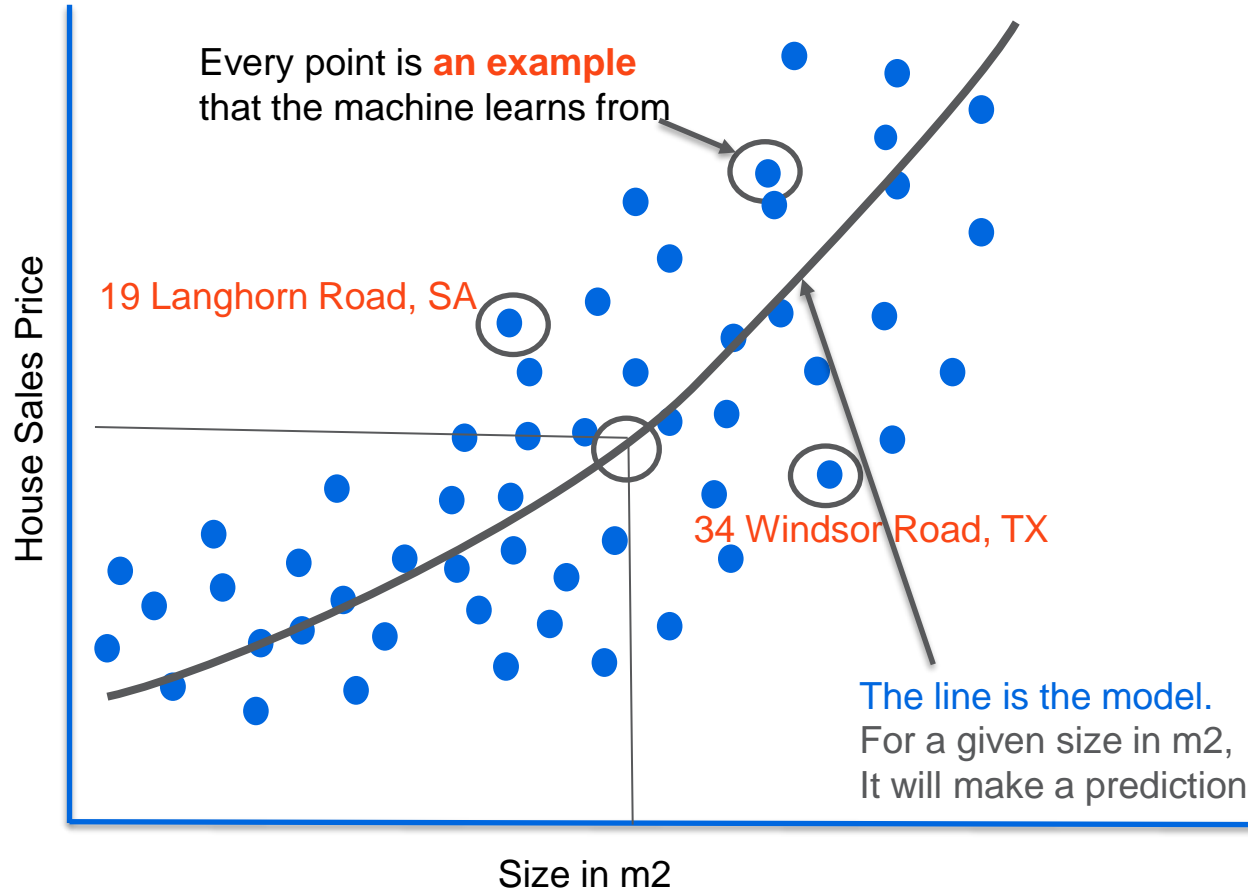
03

## ML Overview and UiPath Starter AI Models

- How Machine Learning works
- What are the UiPath Starter AI models

# How does Machine Learning work?

Machine Learning refers to a set of approaches for estimating functions.



- Regardless of what function we choose, it will never fit the data perfectly.
- We won't have access to unlimited data or all the factors that influence the output (price).
- The goal is to minimize the errors that it makes.



# UiPath Starter AI Models

## UiPath Document Understanding

- Invoices – Generic, India, Australia, Japan ★
- Receipt ★
- Purchase Orders ★
- Utility Bills ★
- Generic Document Understanding ★
- Generic Document Classifier ★
- Contracts – coming soon ★
- Passports & ID cards – coming soon ★

## Language Analysis

- Text Classification – English, French, Japanese, light, multi-language ★
- Language Detection
- Language Translation – English to French, English to German, English to Russian, German to English, Russian to English
- Named Entity Recognition – retrainable version coming soon
- Sentiment Analysis

## Language Comprehension

- Question Answering
- Semantic Similarity
- Text Summarization
- Image Analysis
- Image Moderation – Explicit, explicit-drawing and more
- Object Detection – People, vehicles, animals, accessories, furniture, appliances, etc and custom objects: masks, products, parcels ★
- Image Classifier – Coming soon

## Tabular Data

- TPOT Regression – Customer demand, inventory management, price prediction, customer lifetime value ★
- TPOT Classification – Churn prediction, fraud detection, loan default, probability to win a RFP, propensity to respond to campaigns ★
- Others
- Time Series ★
- Custom-built Models

★ Indicates a retrainable ML Model

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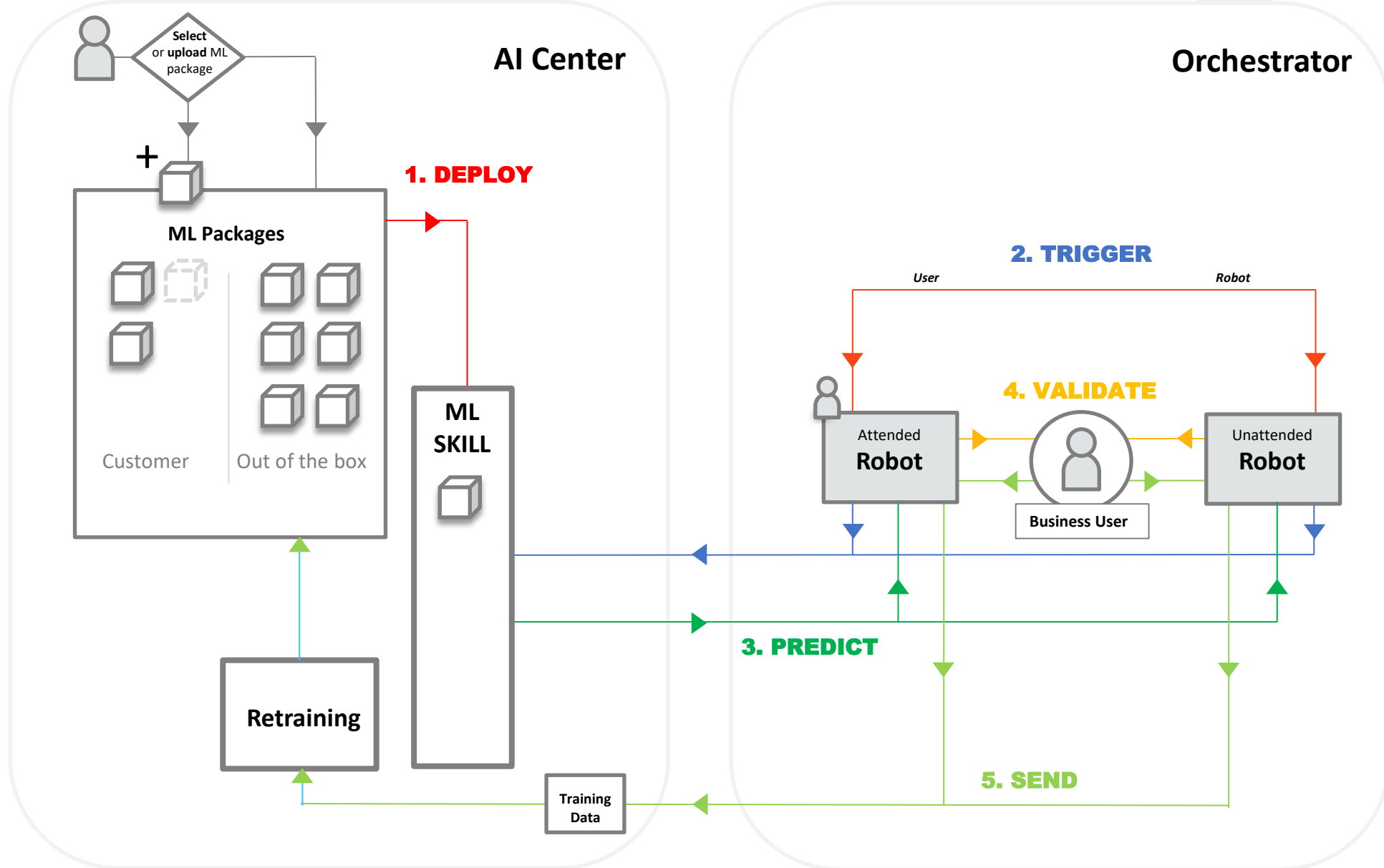
- How Machine Learning works
- What are the UiPath Starter AI models

04

## AI Center and Other Products

- How AI Center interacts with other products

# AI Center and Other UiPath Products



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## New in 2021.4 Enterprise Release

- What's new in AI Center

# AI Center – what's new for 2021

Jan	Feb	March	April	2021.10
<p><b>Cloud rebranding</b></p> <ul style="list-style-type: none"> <li>Starting Jan 27, 2021, the AI Center cloud environment will use the new name.</li> <li>Product page, top webpages, blogs, demo videos, Academy course, documentation pages are updated with the new AI Center.</li> </ul>	<p>On Feb 1, we released a new patch, which includes,</p> <ul style="list-style-type: none"> <li>Private AKS installation support</li> <li>Use CV services</li> <li>ML package import and export across different instances</li> <li>Streamlined on-prem installation</li> <li>Added ML Classifier model; Updated existing DU models to the latest version and base images</li> </ul> <p>Infrastructure migration from GCP to Azure</p> <p>New cloud instance – Australia</p> <p>Task Mining integration</p> <p>Cloud- Make ML skill public – DU only</p>	<p>Multi-language text classification ML model</p> <p>Time series ML model</p> <p>Make ML skill and datasets public</p> <p>ML Services Activities pack - preview</p>	<p>Fully automated continuous retraining (cloud only)</p> <p>ML package import/export across instances (on-prem only)</p> <p>On-prem disaster recovery of your AI Center instance</p> <p>New cloud instance – US</p> <p>Improved experience for configuring pipeline parameters</p> <p>Undeploy an ML skill if it is not active</p>	<p>Community edition</p> <p>Model marketplace</p> <p>SOC2 type 1 certification – cloud only (this will be out before 21.10)</p> <p>Migration between single-node and multi-node</p> <p>Deploy to a customer's existing Kubernetes cluster</p> <p>Multi-region GEO support – more geos</p> <p>Continuous retraining – on-prem</p> <p style="text-align: right;"><i>subject to change</i></p>

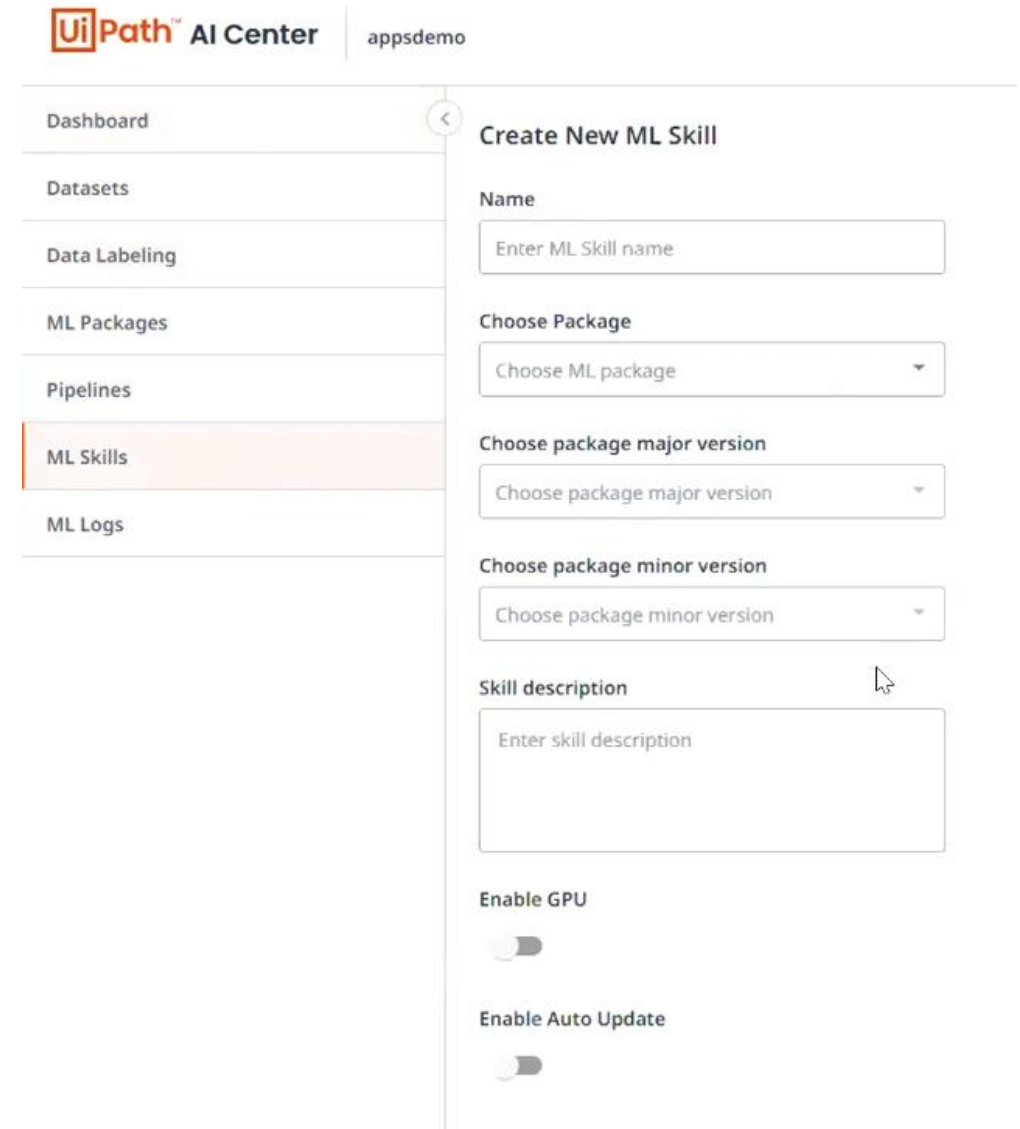
# New in 2021.4 Enterprise Release

- Fully automated continuous retraining (cloud only)
- Auto-undeployment of ML Skills if inactive for a certain period of time
- Improved experience for configuring pipeline parameters
- Hybrid Deployment mode (cloud AI Center + on-prem Orchestrator)
  
- Backup/restore of data across instances (on-prem only)
- Disaster recovery of your AI Center instance (on-prem only)
- New cloud instance – US
- Performance improvements to DU models



# Fully automated continuous retraining (cloud)

- Enables automatic deployment of new versions of an ML package, thus unlocking a fully automated continuous learning loop
- Does not currently have an option to configure custom conditions such as automatically deploying a new package version if the evaluation score is over a certain threshold – **planned for the future**
- Available in 2021.4 in the cloud, for non-DU models
- Available in 2021.5 in the cloud, for DU



The screenshot shows the 'Create New ML Skill' interface in the UiPath AI Center. On the left is a navigation menu with options: Dashboard, Datasets, Data Labeling, ML Packages, Pipelines, ML Skills (highlighted), and ML Logs. The main content area is titled 'Create New ML Skill' and contains the following fields and controls:

- Name:** A text input field with the placeholder 'Enter ML Skill name'.
- Choose Package:** A dropdown menu with the placeholder 'Choose ML package'.
- Choose package major version:** A dropdown menu with the placeholder 'Choose package major version'.
- Choose package minor version:** A dropdown menu with the placeholder 'Choose package minor version'.
- Skill description:** A text area with the placeholder 'Enter skill description'.
- Enable GPU:** A toggle switch currently turned off.
- Enable Auto Update:** A toggle switch currently turned off.

# Auto-undeployment of ML Skills

- Optimizes your resources so you are not taking up valuable licenses or infrastructure when not needed;
- ML Skills will automatically be undeployed after a period of inactivity;
- Instead of being fully deleted, after the inactivity period the skill will go to STOPPED state. This state means that pods are removed (no resource consumed) but the Skill is still there, so you cannot use the name with another Skill;
- Users can customize their period of inactivity for a Skill via a dropdown;
- Only enterprise users will have the option to keep their Skill deployed forever;

The screenshot displays the UiPath AiFabric interface for creating a new ML Skill. The left sidebar contains navigation options: Home, Tasks, Apps, Workflows, Ai Fabric (selected), and Admin. The main content area is titled 'UiPath AiFabric | UiPath Document Understanding' and features a 'Create New ML Skill' form. The form includes the following fields and options:

- Name:** A text input field containing 'Invoices'.
- Choose package:** A dropdown menu with 'Invoices' selected.
- Choose package major version:** A dropdown menu with 'Choose major version' selected.
- Choose package minor version:** A dropdown menu with 'Choose minor version' selected.
- Enable GPU:** A toggle switch that is currently turned on (blue).
- Make ML Skill Public:** A toggle switch that is currently turned on (blue).
- Undeploy Skill after period of inactivity:** A dropdown menu with '1 week' selected.

At the bottom of the form, there are three buttons: 'Submit' (blue), 'Infra Settings' (white), and 'Cancel' (white).

# Improved experience for configuring pipeline parameters

- Having auto-generated parameters in the UI for training different models will make it easier to provide a great user experience without coding;
- No need to remember or to search for the parameters for a particular model anymore – they will now be pre-populated;

UiPath™ AI Center

Dashboard

Datasets

Data Labeling

ML Packages

Pipelines

ML Skills

ML Logs

Choose dataset

Enter parameters [+ Add new](#)

Environment Variable	Value	
epoch	5	
verbose		
batch_size	5	

Enable GPU

Run now  Time based  Recurring

Create Cancel

v21.4.1

# Hybrid deployment mode

- You can now use cloud AI Center with on-prem Orchestrator;
- Robot can be connected to on-prem Orchestrator and can call ML Skills and upload data to a Dataset using the public endpoints set up in cloud AIC;

## Robot uploaded data

Created On	2021-03-01 03:24 pm	Last modified	2021-04-07 06:56 pm
<b>Endpoint</b>	<a href="https://cloud.uipath.com/gsteam/DSF_Ingram/aifabric/_ai-trainer/v1/signedURL/public?blobName=e3c644e9-781d-409f-b359-ec34e1c22196/877cddc4-67d4-49fb-b982-0bba9d555526">https://cloud.uipath.com/gsteam/DSF_Ingram/aifabric/_ai-trainer/v1/signedURL/public?blobName=e3c644e9-781d-409f-b359-ec34e1c22196/877cddc4-67d4-49fb-b982-0bba9d555526</a>	<b>API Key</b>	3191f22c-d9bd-4a0a-a15d-38e14fa1623a
<b>Description</b>			

Are you sure you want to update Classifier\_Skill ?

Current ML\_Classifer 3.0

Enable GPU



Make ML Skill Public



Confirm

Cancel

Dashboard

Datasets

ML Packages

Pipelines

ML Skills

ML Logs

## Edit dataset

Dataset name

Robot uploaded data

Dataset description

Enter dataset description

Make dataset Public



# AI Center Agenda

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- Define AI Center

02

## “Automate More!” and Key Differentiators

- Why you need AI in automation workflows
- What are the key differentiators

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## AI Center and Other Products

- How AI Fabric interacts with other products

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- How Machine Learning works
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## New in 2021.4 Enterprise Release

- What’s new in AI Center

06

## AI Center Flavours

- Discover the newest AI Center deployment options
- Differentiate between single-node and multi-node installation types

# AI Center Flavours

	Cloud	On-Prem	On-Prem Air-gapped	Hybrid (cloud AIC + on-prem Orch) (NEW)
<b>Deployment</b>	Deploy, manage and improve ML models on <b>UiPath Automation Cloud</b>	Deploy, manage and improve ML models <b>locally</b>	Deploy, manage and improve ML models <b>locally</b>	Deploy, manage and improve ML models on <b>UiPath Automation Cloud</b>
<b>Infrastructure</b>	None. No maintenance.	Customer-managed	Customer-managed	Orchestrator infrastructure and maintenance
<b>Uptime guarantee for enterprise version</b>	Yes	No	No	Yes
<b>Patches</b>	Frequent patches with new features and bug fixes, in accordance with the Cloud Platform release cadence	Patches released with much slower cadence	Patches released with much slower cadence	Frequent patches with new features and bug fixes, in accordance with the Cloud Platform release cadence
<b>Installation &amp; Management</b>	No installation	<ul style="list-style-type: none"> <li>• Easy installation due to the automatic retrieval of installer &amp; artifacts from the internet</li> <li>• Easy management as updates to AIC and/or models can be automatically downloaded</li> </ul>	All resources must be manually downloaded and then loaded in the node. Thus: <ul style="list-style-type: none"> <li>• More difficult to install</li> <li>• More difficult to manage</li> </ul>	No installation
<b>Metering</b>	DU metering done in UiPath Cloud	DU metering done in UiPath Cloud	DU metering done in Orchestrator	DU metering done in UiPath Cloud
<b>Internet access</b>	Required	Required	No internet access required	Required

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- Discover AI Center deployment options
- Differentiate between single-node and multi-node installation types

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## Licensing & Pricing

# AI Center Licensing & Pricing

## Cloud

- **AI Robot:**
  - Runs 2 ML skills or 1 training job at a time
- **AI Robot Pro:**
  - Runs 2 ML skills or 1 training job at a time with GPU available

## On-premise

- **AI Robot:**
  - Runs 2 ML skills or 1 training job at a time
  - On-prem AI robots can utilize available GPUs; there's no need for a *pro* version

- AI Center environments (dev/test/production) are licensed in the same way.
- **AI Robots** are required to use **Document Understanding** ML models. For information, please see slide [Document Understanding and AI Center Licensing Dependencies](#).
- AI Center pricing & licensing are not expected to change with the 21.4 release. For the latest pricing information, check out [AI Center Pricing in Highspot](#).



# Document Understanding

# Document Understanding Agenda

- 01** What is Document Understanding?
- 02** Context for Document Understanding
- 03** New in 2021.4 Enterprise Release (Overview)
- 04** Architectural Updates
- 05** New Features (in Detail)
- 06** Minimum Version Requirements
- 07** Document Understanding Licensing & Consumption
- 08** DU Licensing Dependencies with Human-in-the-Loop and AI Center

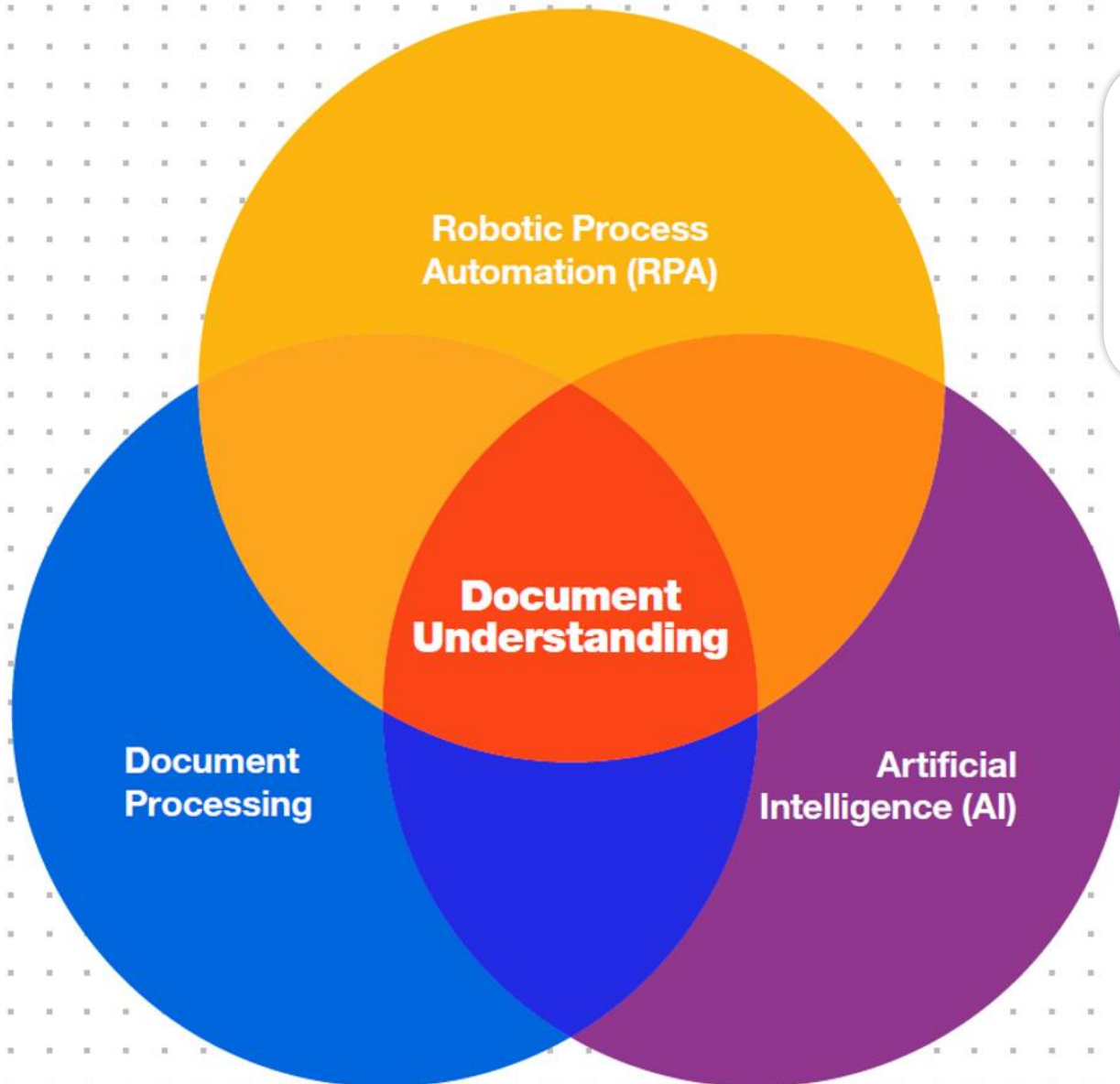
# Document Understanding Agenda

01

## What is Document Understanding?

- Define Document Understanding
- Why Document Understanding is at the Core of RPA

# What is document understanding?



**Document understanding** is the ability to **extract** and **interpret information** and **meaning** from a wide range of documents.

It emerges at the intersection of document processing, AI, and RPA.

Not  
OCR

Not  
Computer  
Vision

# Document processing is a core of RPA. Why?



One of the main promises of process automation is **freeing up data trapped in documents**



There is no company in the world which does not **deal with documents**, especially in the industries like banking, finance, insurance, manufacturing, HR, public sector



**Any selling process involves repetitive document processing** (accounts payable & receiving, invoices, receipts, purchase orders, shipment tracking)

# Document Understanding Agenda

01

## What is Document Understanding?

- Define Document Understanding
- Why DU is at the Core of RPA

02

## Context for Document Understanding

- Business Process context
- Capabilities
- Strengths and Differentiators
- Managing clients' expectations and success criteria

# Document Understanding in Business Processes

Document Understanding **on its own** is very rarely an end-to-end process. But instead, it is a key piece of collecting the necessary data within a larger workflow:

- Documents must be retrieved from one or more sources – eg: as email attachments, downloaded from a site, exported from an application, etc.
- Extracted data must be input into subsequent applications in order to properly utilize it

The collage shows three distinct business forms:

- Form W-9 (US):** Request for Taxpayer Identification Number and Certification. It includes fields for business name (Genesis Inc), address (Mount Vernon, WA), and TIN (987654321).
- Indian Form:** Purchase Request Form from All India Institute of Medical Sciences, Raipur. It includes fields for department, nature of items, and a table for item details.
- French Form:** Fiche signalétique de transfert d'un lot de marchandises. It includes fields for sender (Cédant), receiver (Preneur), and transporter, along with a table for item details.

# Document Understanding Capabilities

One of our biggest differentiators between us and a company focused solely on Document Understanding are our **RPA capabilities and platform integrations**.

We can look beyond data extraction, and make sure we automate the **entire** process, all while being **technology agnostic**. Our platform allows you to pick the technologies that work best for you during each step of the process.

We can leverage all kinds of technologies because of our robust strategic partnerships.

## EXTRACTION

- **Hybrid extraction**
  - Same project can use templates and ML models
  - Multiple methods can be used to optimize results for large document sets
- **Handwriting capabilities**
- **Robust ML Extraction**
  - Custom model creation
  - Out of the box models
  - Retraining capabilities
- **Signature detection**
- **Checkboxes and Radio Buttons**

## VALIDATION

- **BIG DIFFERENTIATOR**
  - We can leverage the full power of RPA to aid in all kinds of validation
  - Cross-referencing data
  - Compare data to API or database query results
  - Identifying multiple documents in an input file
- **Validation Station**
  - Speeds up exception handling time for humans
  - Retrain capabilities with 20.10 for ML Models
- **Action Center**
  - Validation Station integration
  - Email notifications
  - Form building capabilities



# Why UiPath? Key differentiators

## UNIQUE [Only UiPath has it]

- ✓ **End-to-end document processing automation:**  
UiPath Document Understanding + UiPath RPA Platform
- ✓ **Hybrid approach to data extraction:**  
Apply various extractors even to the same field or page of a document

## COMPARATIVE [UiPath does it better than competitors]

- ✓ **Processing of a wider range of documents:**  
UiPath Document Understanding + Partner Ecosystem
- ✓ **Pre-trained ML models:**  
Invoices, Receipts in GA, Purchase Orders, Utility Bills, Invoices for India, Australia, and Japan in preview; custom model creation
- ✓ **Human validation and retraining of ML models via Validation Station:**  
Constantly improve the accuracy

# Managing Expectations and Success Criteria

**The quickest way to have an unhappy customer when starting with DU is by neglecting to set and manage expectations.**

Document Understanding is not magic. If done right, it can seem like it 😊.

Sample questions to ask to ensure a good understanding of the use case:

- Do they process enough documents to warrant the costs?
- Are their documents scanned or digital?
- Are handwriting capabilities required?
- Can you access the document in the form of a file, or does the document solely exist within one of their systems?
- Do they have certain document types that account for most of their document set?
- Is an ML or template approach appropriate? Or a hybrid?
- How many types/versions of documents are expected? How many languages? Can we get sufficient samples?

## SUCCESS CRITERIA

**Success criteria will vary from automation to automation.**

- For example, a handwriting vs machine printed document is going to result in different “acceptable” accuracy levels
- A new ML model might have a lower extraction accuracy at first, but results will improve over time with proper retraining
- If your process is going to have 20 different templates, understanding the time that goes into building and maintaining those vs creating and training an ML model

**A large part of successful implementations comes from truly understanding their document set and what solution fits their need and their FUTURE needs as well.**

- A templated approach may work in the short term, but long term an ML model may be best.
- At face value, the documents may be able to be extracted, but the larger process could cause problems down the road. Analyze the whole process as well as their document set.

# Document Understanding Agenda

## 01 What is Document Understanding?

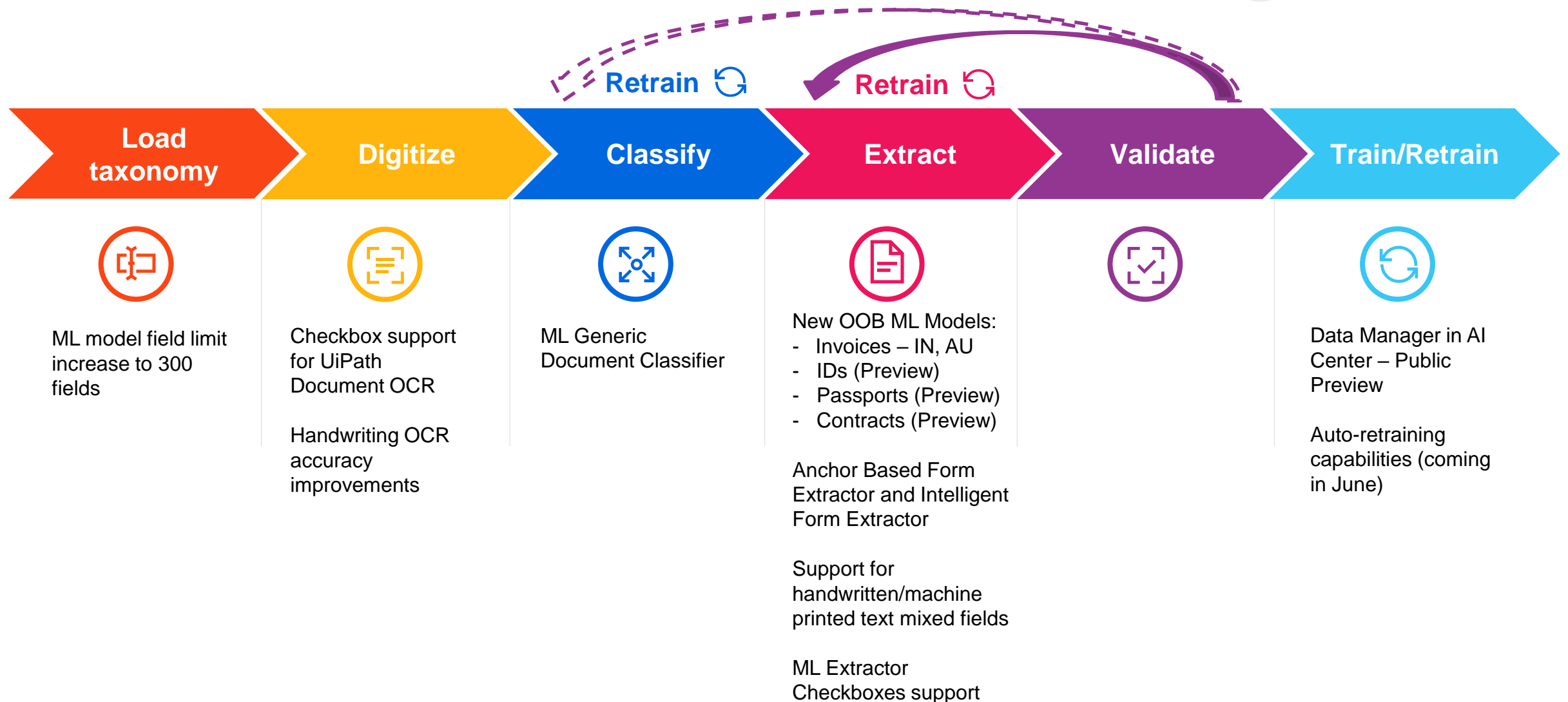
## 02 Document Understanding in the Hyperautomation Context

- Business Process context
- Capabilities
- Strengths and Differentiators
- Managing clients' expectations and success criteria

## 03 New in 2021.4 Enterprise Release (Overview)

- Overview of the 2021.4 new Document Understanding features
- Enterprise Release 2021.4 additions

# New 2021.4 Features in the Document Understanding Framework



# Other additions in the 2021.4 Enterprise Release

- New hosting servers added in US & CA regions for all DU services
- DU Architectural updates: AIC Hybrid Mode
- Auto retraining capability of Data Manager (coming in June)
- Date parsing fix for ML extraction models
- No more limitation on the number of pages in Data Manager
- Multiple improvements and fixes for Data Manager

## **Additional features coming in preview:**

- DU Process Template
- Contracts ML model (coming soon)
- IDs and Passports pre-trained data extraction ML models (coming soon)

# Document Understanding Agenda

**01** What is Document Understanding?

**02** Document Understanding in the Hyperautomation Context

**03** New in 21.4 Enterprise Release (Overview)

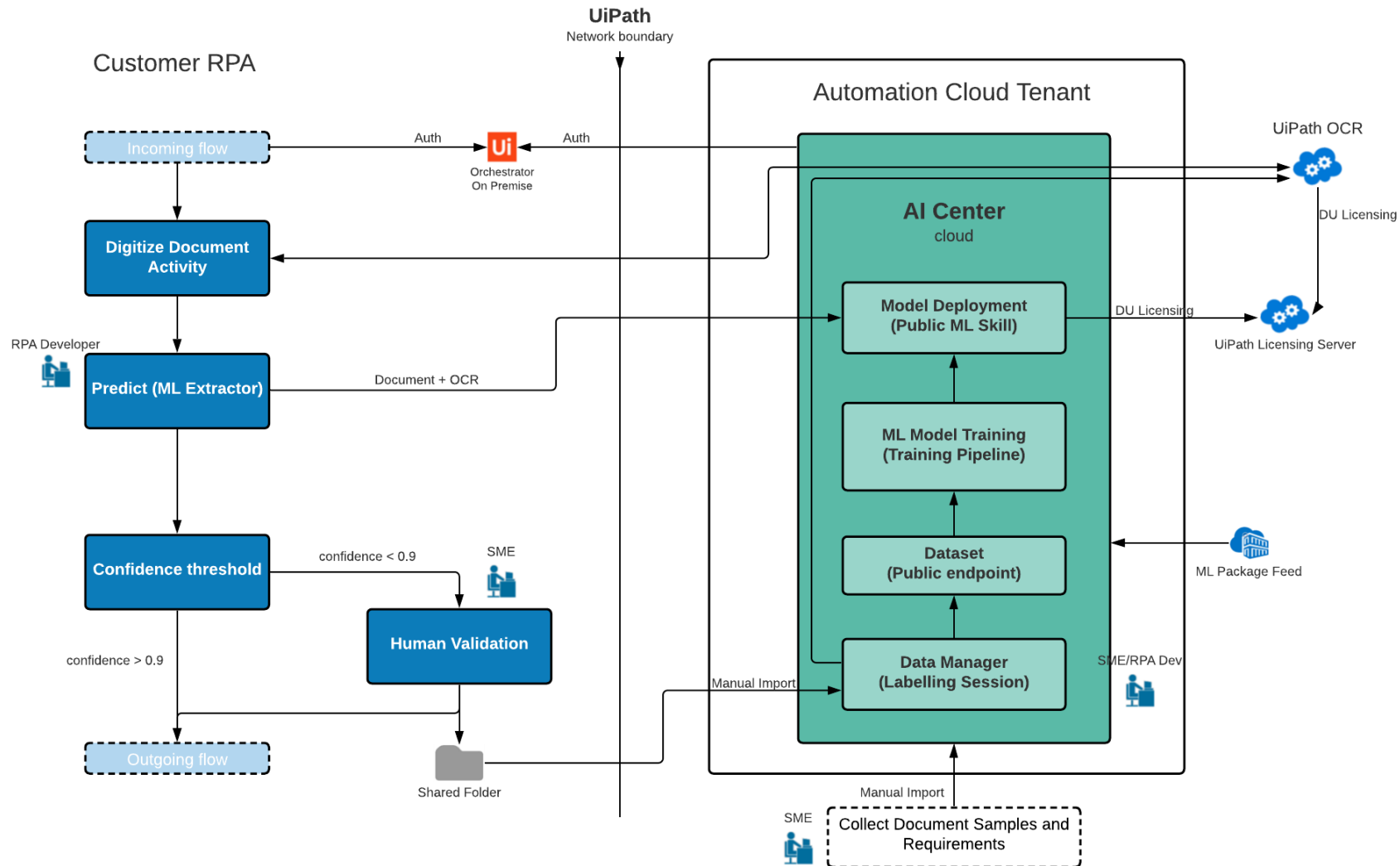
- Overview of the 21.4 new Document Understanding features
- Enterprise Release 21.4 additions

**04** Architectural Updates

- Hybrid mode

# DU Architecture & Metering – Hybrid mode

## DU 2021.4 – AIC Cloud + Orchestrator On-Prem



# Document Understanding Agenda

01

What is Document Understanding?

02

Document Understanding in the Hyperautomation Context

03

New in 2021.4 Enterprise Release (Overview)

04

Architectural Updates

05

**New Features (in Detail)**

- Machine Learning Classifier
- Anchor-based Form Extractor
- Improved Handwritten data extraction
- New Document Understanding ML Models in GA and Preview
- Data Manager with new capabilities
- DU Process Template



# Machine Learning Classifier (going GA)

- The ML Classifier is a solution consisting of a trainable ML model in AI Center paired with a Studio activity
- The classifier will be able to identify all logical documents within an input file
- A comparison between the new Classifier capabilities is shown below:
- **Note:** does **NOT** yet support document splitting

## Machine Learning Classifier

- Requires a bigger dataset for initial model training
- Time and effort required for initial document labeling
- ++ Provides a superior identification of diverse documents

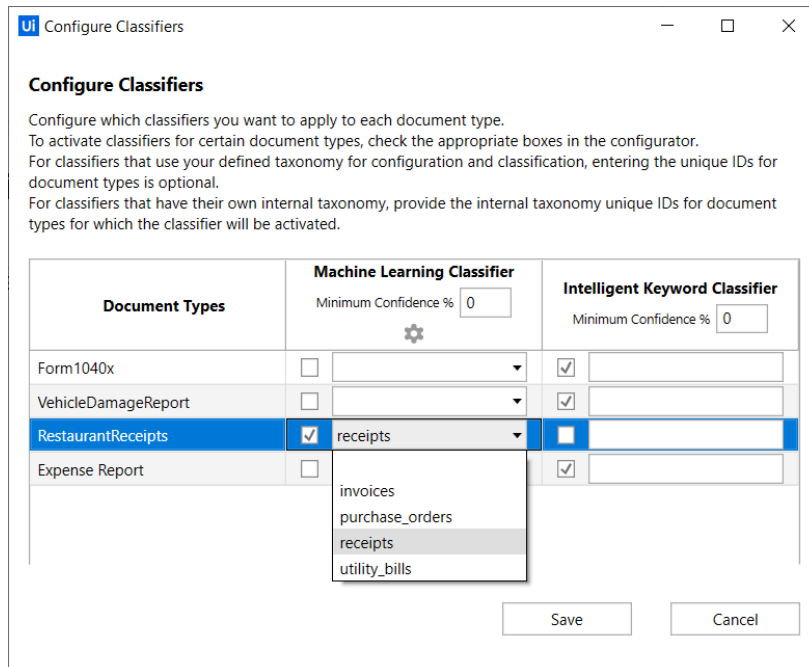
## Intelligent Keyword Classifier

- + Can be used with fewer sample documents
- + Simple initial training via the embedded wizard

# Machine Learning Classifier & Classifier Trainer

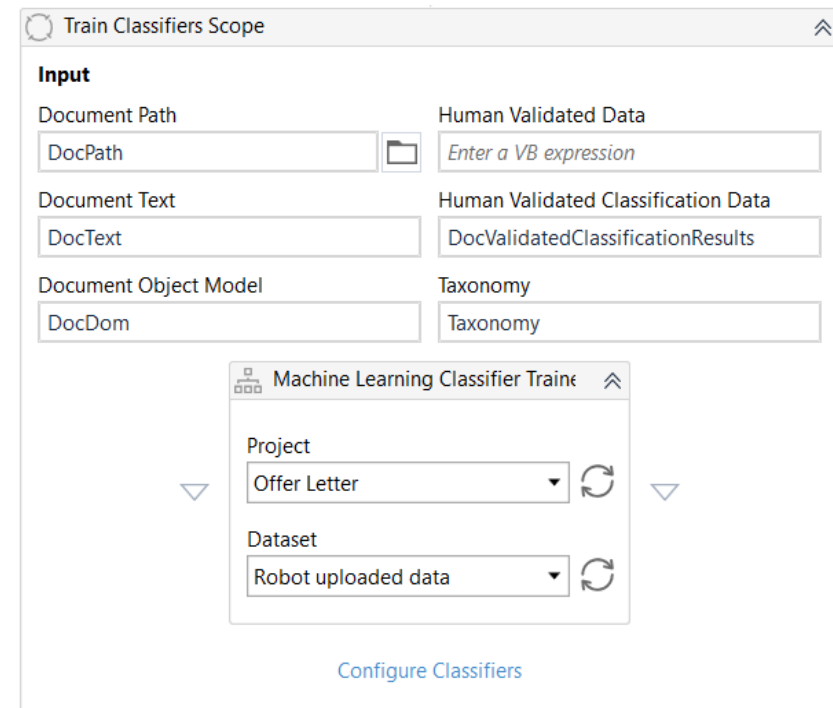
## Machine Learning Classifier Activity

- Pre-trained Classifier works on ML Classifier skills
- Works by default with Invoices, Purchase Orders, Receipts and Utility Bills
- Retractable for other document types by using Machine Learning Classifier trainer activity



## Machine Learning Classifier Trainer Activity

- Enhances the training set used for classification
- Training helps improve classification results over time



# Anchor Based Form Extractor

UiPath Template Manager "New-Form"

Document Type: Form1040x

1 Page 1 Matching Info

- Department of the Treasury - Internal Revenue Service Amended U.S. Individual Income Tax Return

2 Page 2 Matching Info

- Part I and Dependents Page 2 Part II

return-2019

- 2 anchors
- This return is for calendar year **Primary Anchor**
- 2019 **Supporting Anchor**

return-2018

- 2 anchors

Discard changes Save 13 / 13

Clear anchors 1 / 2

Form 1040-X Department of the Treasury—Internal Revenue Service Amended U.S. Individual Income Tax Return OMB No. 1545-0074

January 2020 [irs.gov/Form1040X](https://www.irs.gov/Form1040X) for instructions and the latest information.

This return is for calendar year **2019**  2018  2017  2016  
Other year. Enter one: calendar year or fiscal year (month and year ended):

Your first name and middle initial <b>James J</b>	Last name <b>Jones</b>	Your social security number <b>4 2 1 4 5 0 3 6 0</b>
If joint return, spouse's first name and middle initial	Last name	Spouse's social security number
Current home address (number and street). If you have a P.O. box, see instructions. <b>758 Willow Greene Drive</b>	Apt. no.	Your phone number <b>334-486-7838</b>
City, town or post office, state, and ZIP code. If you have a foreign address, also complete spaces below. See instructions. <b>Montgomery, Alabama, 36014</b>	Foreign province/state/county	Foreign postal code

Amended return filing status. You must check one box even if you are not changing your filing status. **Caution:** In general, you can't change your filing status from a joint return to separate returns after the due date.

Single  Married filing jointly  Married filing separately (MFS)  Qualifying widow(er) (QW)  Head of household (HOH)

If you checked the MFS box, enter the name of spouse. If you checked the HOH or QW box, enter the child's name if the qualifying person is a child but not your dependent. ▶

Use Part III on the back to explain any changes

	A. Original amount reported or as previously adjusted (see instructions)	B. Net change—amount of increase or (decrease)—explain in Part III	C. Correct amount
1 Adjusted gross income. If a net operating loss (NOL) carryback is included, check here . . . . . ▶ <input type="checkbox"/>	1		
2 Itemized deductions or standard deduction . . . . .	2		
3 Subtract line 2 from line 1 . . . . .	3		
4a Exemptions (amended 2017 or earlier returns only). If changing, complete Part I on page 2 and enter the amount from line 29 . . . . .	4a		
4b Qualified business income deduction (amended 2018 or later returns only)	4b		
5 Taxable income. Subtract line 4a or 4b from line 3. If the result is zero or less, enter -0- . . . . .	5		

Tax Liability

6 Tax. Enter method(s) used to figure tax (see instructions):

# Anchor Based Intelligent Form Extractor and Handwritten Data Extraction

The screenshot displays the UiPath Template Manager interface for a document titled "Expense Report". The left sidebar shows a list of sections with their respective anchors:

- Document Type: Expense Report
- Page 1 Matching Info: Request for Reimbursement My Company NAME
- Name: Custom Selection
- Payment Details: 1 anchors (SEND PAYMENT)
- Line Items: 1 anchors

The main window shows the document content with handwritten data and anchors. A green box highlights the "Request for Reimbursement" title and the "My Company" logo. A blue box highlights the "SEND PAYMENT" anchor and the address "8765 Pineapple Way". A green dashed box highlights the "SEND PAYMENT" anchor with the text "Primary Anchor".

Below the address, there is a table for "REQUESTED REIMBURSEMENTS":

EXPENSE DETAIL	AMOUNT
Moving company invoice	15,039.20
Lunch @ Los Cabos	32.56
Dinner @ Dough Zone	102.74

# New Document Understanding ML Models

UiPath Document Understanding launched 5 more ML Models in Preview on both Cloud and On Premises deployments.

- All models are retrainable, so their objective is two-fold.  
First, you get new, Out-Of-the-Box, Document Understanding capability.

But perhaps more importantly, you get a leg-up for training a custom ML model for your specific use case, by using these models as Base Models in AI Center (both On Premises and in the Cloud).

- New Document Understanding models and public endpoints:

Invoices India: [https://du.uipath.com/ie/invoices\\_india](https://du.uipath.com/ie/invoices_india)

Invoices Australia: [https://du.uipath.com/ie/invoices\\_au](https://du.uipath.com/ie/invoices_au)

- Contracts: **coming soon**
- Passports: **coming soon**
- IDs: **coming soon**

# Invoices India ML Model (GA)

## Challenges

About 90% of Indian invoices specific information, such as:

- GSTIN number
- CGST
- SGST
- IGST tax rates and values.

## Retrained Invoices-India Model

- name
- vendor-addr
- billing-name
- billing-addr
- shipping-addr
- invoice-no
- payment-terms
- due-date
- po-no
- date
- net-amount
- tax
- total
- currency
- items
  - ✓ line-no
  - ✓ description
  - ✓ item-po-no
  - ✓ quantity
  - ✓ unit-price
  - ✓ line-amount
- supplier\_gstin
- vendor\_gstin
- sgst\_percentage
- cgst\_percentage
- sgst\_total
- cgst\_total
- igst\_percentage
- igst\_total

# Indian Invoice Example

Payment-addr *Not extracted*

Supplier\_gstin 100% 07APACG8976H1Z8

Vendor\_gstin 80% 07BBUPK8789J1Z8

Sgst\_percentage 72% 9

Cgst\_percentage 66% 9

Sgst\_total 54% 216.00

Cgst\_total 60% 216.00

Igst\_percentage *Not extracted*

ENG Discard changes Save 6 / 28

Revised Invoice

<b>JYOTI GST TALLY PRACTICE PRIVATE LIMITED</b>		Credit Note No.	Dated
B-240		<b>1</b>	<b>1-Jul-2017</b>
RAMESH NAGAR		Mode/Terms of Payment	
GSTIN/UIN: 07APACG8976H1Z8		Buyer's Ref.	Other Reference(s)
E-Mail : accounts@gstp.com		<b>GTI-01 dt. 1-Jul-2017</b>	
Party :		Buyer's Order No.	Dated
<b>Ghai Store</b>		Despatch Document No.	
R-786 New Rajinder Nagar, New Delhi-110060		Despatched through	
State Name : Delhi, Code : 07		Destination	
GSTIN/UIN : 07BBUPK8789J1Z8		Terms of Delivery	

Sl No.	Description of Goods	HSN/SAC	Quantity	Rate	per	Amount
1	Spices	09042211	2 Kg	1,200.00	Kg	2,400.00
					9 %	216.00
					9 %	216.00

Output CGST@9%  
Output SGST@9%

# Invoices Australia ML Model (GA)

## Challenges

Most of the Australian invoices contain specific Bank Information:

- Australian Business Number(ABN)
- Bank Account Name
- Bank Account Number
- BSB

## Retrained Invoices-Australia Model

- name
- vendor-addr
- billing-name
- billing-addr
- shipping-addr
- invoice-no
- payment-terms
- due-date
- po-no
- date
- net-amount
- tax
- total
- currency
- items
  - ✓ line-no
  - ✓ description
  - ✓ item-po-no
  - ✓ quantity
  - ✓ unit-price
  - ✓ line-amount
- abn
- account-name
- account-number
- bsb



# Australian Invoice Example

UiPath Validation Station "invoice1"

Vendor Address  
40% 30

Currency  
98% AUD

Tax Amount  
Not extracted

Total  
85% 15039.20

Items  
52% Table

ABN Number  
100% 82 006 132 163

Account Number  
100% 230 103 003

BSB  
100% 242 000

ENG Discard changes Save 3 / 13

GST 10% \$1,367.20  
**GST INCLUSIVE FEE \$15,039.20**

**Methods of Payment:**  
**Cheque:** Please make payable to Right Management Consultants Pty Ltd

**Direct Credit:** Bank: Citibank NA, Australia  
Branch: 2 Park Street, SYDNEY NSW 2000  
BSB: 242 000  
Account Number: 230 103 003  
Swift Code: CITIAU2X  
Fax remittance advice to: 03 8554 2211  
Email remittance advice to: melbourne.ar@right.com

**PAYABLE WITHIN 15 DAYS OF RECEIPT**

**Right Management Consultants Pty Ltd** ABN 82 006 132 163  
Level 6, 312 St Kilda Road, Melbourne VIC 3004 Australia  
T +61 3 8554 2200 F +61 3 8554 2211 www.right.com

# Passports (Preview)

- Supports all countries passports
- Extracts data from two pages of passport
- Retractable model
- Works better with Google Cloud Vision OCR

## Passports ML Model

- passport-no
- first-name
- last-name
- sex
- nationality
- issued-date
- expiration-date
- birth-date
- birth-place
- personal-id
- mrz
- address
- state
- state-code
- authority
- document-type-code
- document-type



# Identity Cards (Preview)

Identity Cards model data extraction is supported in below country formats

- Austria
- Australia
- Belgium
- Canada
- Croatia
- Cyprus
- France
- Hungary
- India
- Italy
- Netherlands
- Poland
- Romania
- Switzerland
- UK
- USA

## ID Cards ML Model

- id-no
- id-no2
- document-type
- first-name
- last-name
- sex
- nationality
- issued-date
- expiration-date
- birth-date
- birth-place
- personal-id
- mrz
- address
- state
- state-code
- authority

# Identity Cards (Preview)

UiPath Validation Station "image (3)"

- Document Type**  
100% IDs
- Id Type**  
100% KARTA POLAKA
- First name**  
98% JAN
- Last Name**  
98% KOWALSKI
- Id Number**  
66% ZKA00049
- Nationality**  
100% POLSKIE
- Birth Date**  
95% 1980.05.05



# Legal Contracts (Preview)

Legal Contracts model is NOT retrainable and comes pre-trained with below set of fields

Non-Transferable\_License

Anti-assignment

IP\_Ownership\_Assignment

Uncapped\_Liability

Covenant\_not\_to\_Sue

Non-Compete

Price\_Restrictions

Expiration\_Date

Joint\_IP\_Ownership

Agreement\_Date

Audit\_Rights

Notice\_Period\_to\_Terminate\_Renewal

ROFR/ROFO/ROFN

Termination\_for\_Convenience

License\_Grant

Irrevocable\_or\_Perpetual\_License

Source\_Code\_Escrow

Affiliate\_License-Licensee

Revenue/Profit\_Sharing

Insurance

Warranty\_Duration

Third\_Party\_Beneficiary

Most\_Favored\_Nation

Change\_of\_Control

No-Solicit\_of\_Employees

Volume\_Restriction

Renewal\_Term

Liquidated\_Damages

Affiliate\_License-Licensor

Governing\_Law

Non-Disparagement

Document\_Name

Minimum\_Commitment

Parties

Post-termination\_Services

No-Solicit\_of\_Customers

Exclusivity

Cap\_on\_Liability


Effective\_Date

Unlimited/All-You-Can-Eat\_License

# Data Manager Integration with AI Center (going GA)

- Data Manager is a web application that facilitates labelling documents in order to train/retrain Document Understanding ML models. It can:
  - Import documents
  - Create or import a labelling schema
  - Pre-label documents with an existing ML model
  - Label documents
  - Export documents as a dataset usable by pipelines within AI Center
- Embedded in AI Center since 2020.10 (in preview until now)

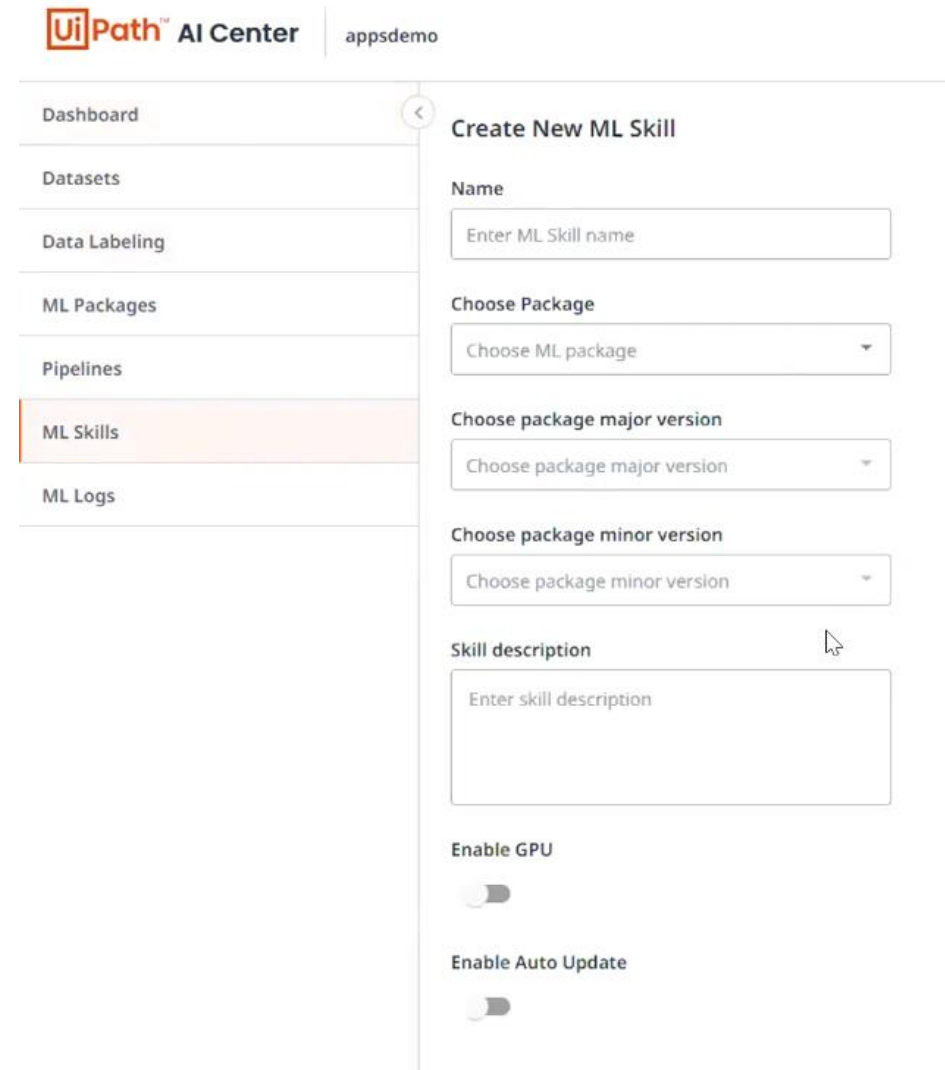
UiPath™ AI Fabric | POsDemo

Dashboard	<h3>Create new Data Labeling App</h3> <div><h4>UiPath Document Understanding</h4><p>Create a session with UiPath's Document Understanding Labeling Interface</p></div> <h3>Data Labeling Session</h3> <table><thead><tr><th>Name ↕</th><th>Export Dataset ↕</th></tr></thead><tbody><tr><td>Pos</td><td>POs_Dataset</td></tr></tbody></table>	Name ↕	Export Dataset ↕	Pos	POs_Dataset
Name ↕		Export Dataset ↕			
Pos		POs_Dataset			
Datasets					
Data Labeling					
ML Packages					
Pipelines					
ML Skills					

ML Logs
---------

# Auto Retraining (coming in May)

- Enables automatic deployment of new versions of an ML package, thus unlocking a fully automated continuous learning loop
- Does not currently have an option to configure custom conditions such as automatically deploying a new package version if the evaluation score is over a certain threshold – **planned for the future**
- Users no longer have to export data from DU models and then deploy an ML skill manually
- Available in 2021.4 in the cloud, for non-DU models
- **Available in 2021.5 in the cloud, for DU**



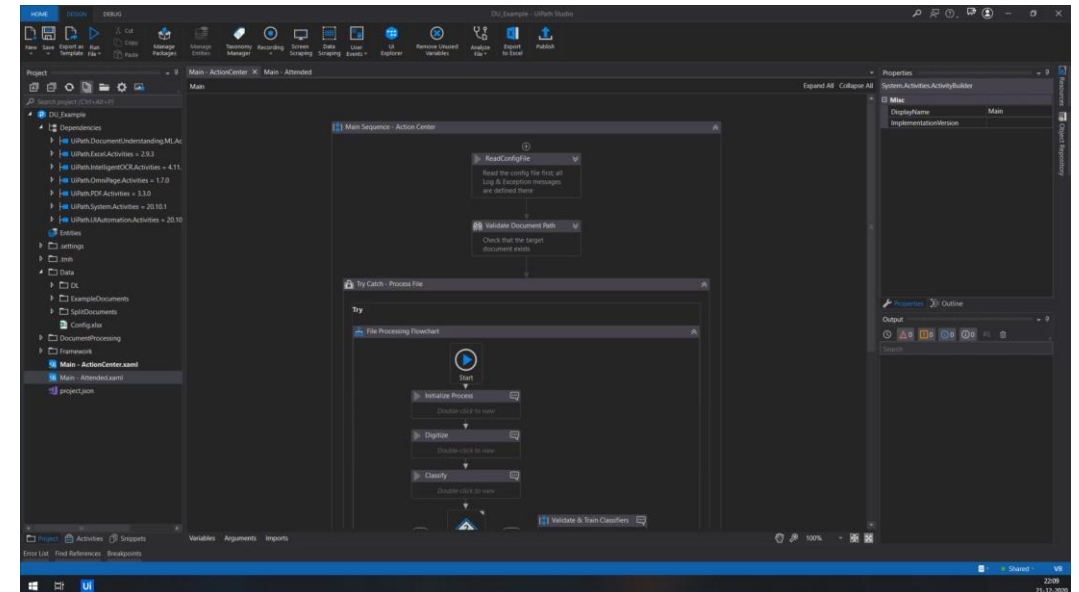
The screenshot shows the 'Create New ML Skill' form in the UiPath AI Center. The form is located in the 'appsdemo' environment. On the left, there is a navigation menu with the following items: Dashboard, Datasets, Data Labeling, ML Packages, Pipelines, ML Skills (highlighted), and ML Logs. The main form area contains the following fields and controls:

- Name:** A text input field with the placeholder text 'Enter ML Skill name'.
- Choose Package:** A dropdown menu with the placeholder text 'Choose ML package'.
- Choose package major version:** A dropdown menu with the placeholder text 'Choose package major version'.
- Choose package minor version:** A dropdown menu with the placeholder text 'Choose package minor version'.
- Skill description:** A text area with the placeholder text 'Enter skill description'.
- Enable GPU:** A toggle switch that is currently turned off.
- Enable Auto Update:** A toggle switch that is currently turned off.



# DU Process Template

- Easy to get new Document Understanding projects started
- Suitable for all use-cases: from quick demos to scalable implementation projects
- Production-ready. Implements built-in logging, exception handling and retry mechanisms
- Common architecture for both Attended and Unattended (+ Action Center) implementations. Easy to switch between solutions.
- Designed to make development, testing, deployment, debugging and scaling much easier.
- Follows the best practices pertaining to RPA, Document Understanding, Orchestration Processes and Long-running Workflows.
- Current version can be downloaded from our [forum](#); planned to be included as a Studio Template.



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05

New Features (in Detail)

- Machine Learning Classifier & Machine Learning Classifier Trainer
- Anchor based Form Extractor
- Anchor based Intelligent Form Extractor & Improved Handwritten data Extraction
- New Document Understanding ML Models in GA and Preview

06

Minimum Version Requirements

# Minimum Version Requirements

- DU + AI Center **on-premise, online**: require **Orchestrator 2020.4**
- DU + AI Center **on-premise, air-gapped**: require **Orchestrator 2020.10**
- **Orchestrator Standard needed – will not work with Orchestrator Basic**
- **Studio version: 19.8+**
- DU + Action Center:
  - DU actions are fully supported in **Orchestrator Actions** starting in **2020.10**:
    - Document Validation Action requires Orchestrator 2020.4
    - Document Classification action requires Orchestrator 2020.10

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**Document Understanding Licensing & Consumption**

- Document Understanding Licensing
- Page Unit consumption by feature

# Document Understanding Licensing

- Document Understanding SKUs consist of page units; SKUs are stackable
- No distinct licensing between different environments (dev/test/prod). Customers must allocate & monitor usage
- Expiration of page units:
  - Upon full consumption **OR**
  - 12 months from the activation date **OR**
  - On Orchestrator renewal date (whichever comes first)
- Consequently, if the Orchestrator license is due for renewal in under 12 months, DU page units should be provisioned to only cover consumption until the renewal date!
- For a DU trial, customers should request an Enterprise Trial in the UiPath Cloud Platform

# Page Unit Consumption by DU Features

Document Understanding features are charged based on usage – items below may be subject to change

Digitization	Classification	Extraction	Validation / Framework
3 <sup>rd</sup> party OCR engines <span>Free</span>	Keyword Classifier <span>Free</span>	RegEx extractor <span>Free</span>	Classification Station <span>Free</span>
UiPath Document OCR <span>*</span>	Intelligent Keyword Classifier	Form Extractor	Validation Station <span>Free</span>
	ML Classifier	Intelligent Form Extractor	Taxonomy Manager <span>Free</span>
	Classification Station <span>Free</span>	ML Extractor	Validation Action <span>**</span>
	Classification Action <span>**</span>		Data Manager <span>Free</span>

\* UiPath Document OCR is **free to use with a valid Document Understanding license key**. So a license is required, but the OCR will not consume license pages

\*\* Classification Action & Validation Action activities are free to use. **Action Center licenses are required** in order to allow users to perform the classification/validation actions.

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New Features in Detail

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Document Understanding Licensing & Consumption

08

**DU Licensing Dependencies with Human-in-the-Loop and AI Center**

- Document Understanding ↔ Human-in-the-Loop Licensing Dependencies
- Document Understanding ↔ AI Center Licensing Dependencies

# Document Understanding and HitL Licensing Dependencies

## HitL via Classification / Validation Station

- HitL tasks are completed on the machine running the job (attended mode)
- **Attended Licenses** are required for the robots running DU jobs

## HitL via Action Center

- HitL tasks are completed in Action Center
- **Unattended Licenses** are required for the robots running DU jobs
- **Action Center Licenses** are required for the users performing the tasks



# Document Understanding and AI Center Licensing Dependencies

- Document Understanding ML models are hosted in AI Center
- **AI Robots** are required in order to train/retrain DU ML models or run DU ML skills
- For AIC & DU on-prem: No action needed – AI Center installation script includes provisioning of AI Robots
- For AIC & DU cloud: **Make sure to include AI Robot licenses in order to enable ML training & serving!**
  - Check with the DU product team for available discounts or promo packs
- These are “regular” AI Robots, intended to be used for DU models ONLY. Use for non-DU models requires paid purchase of additional AI Robots
- If customers use big datasets (over 500 pages) for training their DU models, it is required they use a GPU!  
Note that:
  - For AI Center cloud, this translates into an **AI Robot PRO** license
  - For AI Center on-premise, the customer must provision the GPU(s)

# Help us help you – share data with us

Make Document Understanding better, faster, more accurate to achieve better results at no additional cost

1

A customer encounters a limitation or would like to request an enhancement of a Document Understanding component for their own benefit (including ML model retraining)

2

The customer joins **UiPath Insider Preview Program**

3

The customer **shares sample documents or workflows** exhibiting the limitation or enhancement

4

UiPath uses the data to improve the product at its own cost, unblocking the customer use case

5

The customer gets improved capabilities (including retrained ML models with higher accuracy) - at no cost

6

UiPath makes the enhanced capabilities available to other customers

# Q&A

# 21.4 Partner Enablement Plan

## Here's a quick look at our schedule



### Desktop Products

Explore the latest features of the Studio family, Robots and the UiPath Assistant

April 27, 2021  
3:00pm GMT

[Register Now →](#)



### AI/ML

Enhance your automations with AI

April 29, 2021  
3:00pm GMT

[Register Now →](#)



### Test Suite

Find out about the latest features on RPA and Software testing

May 4, 2021  
3:00pm GMT

[Register Now →](#)



### Apps, Activities, Connectors

Start deliver engaging experience using UiPath's low code-app builder

May 6, 2021  
3:00pm GMT

[Register Now →](#)



### Process Understanding

AI-powered discovery and prioritization of the most impactful automations

May 11, 2021  
3:00pm GMT

[Register Now →](#)



### Cloud Services

Rapid expansion of the UiPath Automation Cloud(™) capabilities

May 12, 2021  
3:00pm GMT

[Register Now →](#)

**Thank you  
Stay Safe and Stay  
Healthy**

