Intelligent Automation (IA)
[Robotic Process Automation (RPA) + Artificial Intelligent (AI)]

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"Just as the Industrial Revolution freed up a lot of humanity from physical drudgery, I think Artificial Intelligent has the potential to free up humanity from a lot of the mental drudgery."

- By Andrew Ng.

Intelligent Automation (IA)
=
[Robotic Process Automation (RPA)
+
Artificial Intelligent (AI)]

Robotic Process Automation

Robotic
An entity which is capable of being programmed by a computer for doing complete tasks is known as robot. In terms of RPA this task would be to **mimic the human actions**.

Process
A **sequence of steps** that leads to a meaningful activity. In terms of RPA this task is known as process.

Automation
A task when **automatically happens without human intervention**. In terms of RPA known as automation.

Artificial Intelligence is

[Robotic & Machine Control System
(Human Body + Motor Skill)

+

Cognitive Computing
(Human Brain + 5 Senses)

+

Data Science (ML/DL/Neural Network)

(Human Subconscious & Conscious Memory + Wisdom/Intuition/Six Sense)]

Apply on Big Data (5 V's)
(Volume + Velocity + Variety + Veracity + Value)

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Domain				Sub Domain	Function
Artifitial Intelligence	Cognitive Computing	Machine Learning	Model Improvement & Generalization	Perception	Sensors	Collect & Stream Data
				Recognition	Image Processing & Recognition	Deep Learning (DL)
					Audio Processing & Recognition	
					Text Processing	Optical Character Recognition (OCR)
					Speech Processing & Recognition	Seech to Text
						Natural Language Processing (NLP)
				Memory	Long Term Memory	
					Short Term Memory	
				Supervised Learning		Classification
						Regression
						Time Series Analysis
				Unsupervised Learning		Clustering
						Association Rules
						Sequential Pattern Mining
						Deep Learning (DL)
				Reinforcement Learning		Reinforcement Learning
				Retrieval	Search Algorithms	
				Decisioning	Rules	
					Optimization	Simplex
						Gradient Descent
				Responding	Complex Event Processing	
					Recommendation Engine	
					Natural Language Processing (NLP)	
				Interaction	Robotics	Machine Control Systems

Some of Industry Recognized RPA Tools

1. WorkFusion

2. UiPath

3. BluePrism

4. Automation Anywhere

Some of the Typical Key Concepts of RPA Tools

"Activity" is the smallest action, e.g. clicking the left button on mouse.

"Sequence" is a series of activities that does a meaningful task, e.g. registering a subscriber.

Some of the Typical Key Components of RPA Tools

1. Recording

2. Scraping

3. User Events

4. Variables

Some of the Benefits of RPA Implementation?

RPA enables computer software to partially or fully automate human activities which are manual, repetitive and rule-based.

RPA enable the organization's ability to map out a business process that is definable, repeatable, and rule-based and assign a software "robot" to manage the execution of that process.

AI vs RPA?

AI also called as Smart Process Automation (SPA).

Unlike RPA, which must be programmed to perform a task, AI can train itself or be trained to automate more complex and subjective work through platform recognition.

AI vs RPA (cont..)?

Unlike RPA, which requires a human expert to hard code a script or workflow into a system, AI can process natural language and unstructured data.

Unlike RPA, AI responds to a change in the environment, adapt and learn the new way.

1. Enforce processes & Increase Security.

2. Promoting Self-Service & Productivity.

3. Automating Big Data & Data Science Processes.
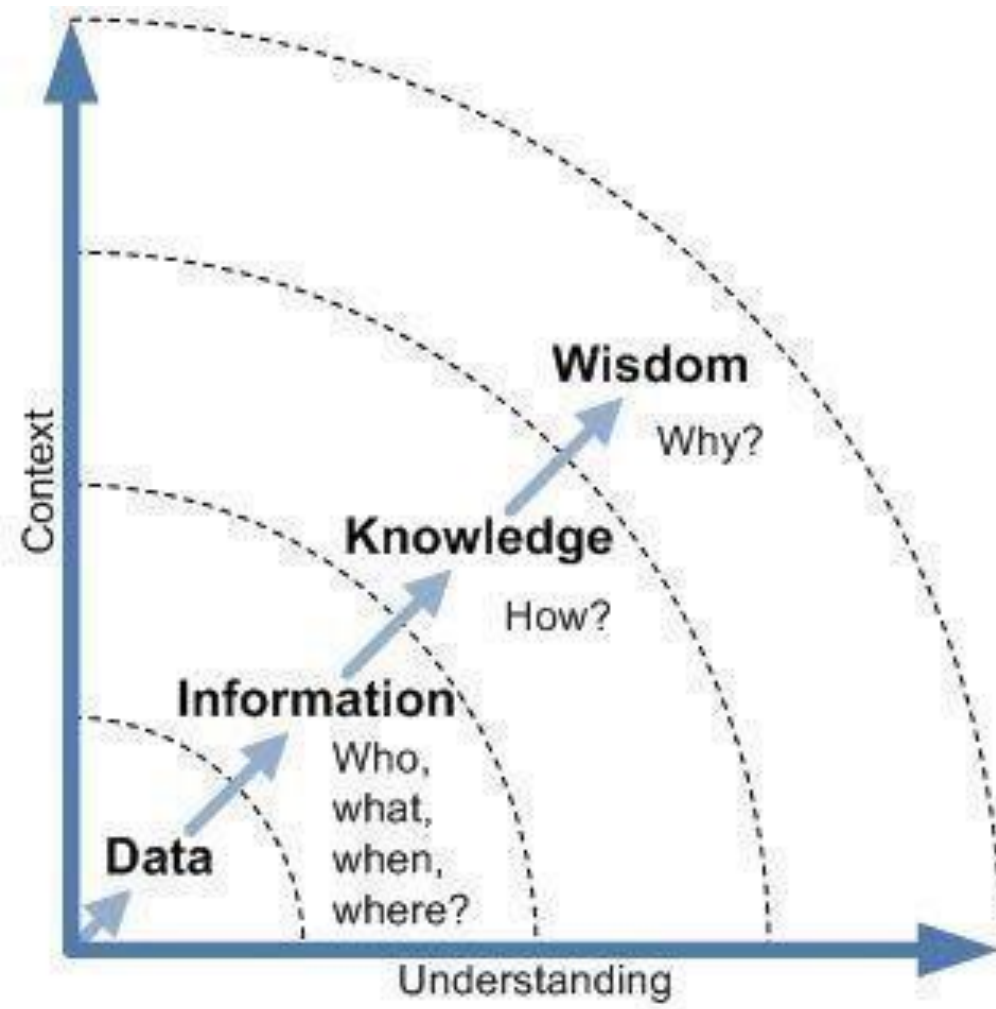
4. Helping Legacy Systems work with Cloud.

5. Overcoming Geographic & Time zone

What can be Achieved by Robotic Process Automation?

Speed, Agility & Automation

What can be Achieved by Intelligent Automation?

Artificial Intelligent/Wisdom

Thank you!