

# **IS YOUR COMPANY READY FOR ARTIFICIAL INTELLIGENCE?**

AyamiH Consultants

# **ABOUT AYAMIH CONSULTANTS**

Headquartered at Bangalore in India, AyamiH Consultants is a Professional Consulting Firm providing Data Analytics, Data Mining, Data Modelling and Business Intelligence Gathering with the use of Machine Learning (ML), Deep Learning (DL), and Artificial Intelligence (AI).

## **Introduction**

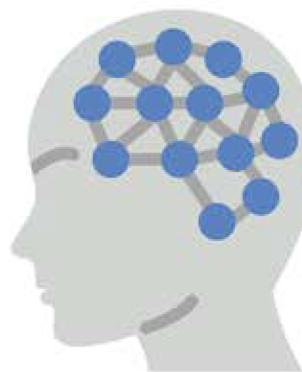
A recent study by [The Statistics Portal](#) predicts that the AI market will be worth \$90 billion by 2025 and the leaders continue to invest in AI service like Automation, Chabot's for customer service etc.

And we hear about AI almost every other day and its presence seems more ubiquitous than ever. It's not just the Google autonomous car or Apple's Siri or Amazon's Alexa that uses AI. As an example, - Did the last email that you have sent get filtered as Spam? Very simple applications like this can also be handled using AI.

Now, the Big Question?

## **Does your company need to take a "Leap of Faith" into the AI bandwagon?**

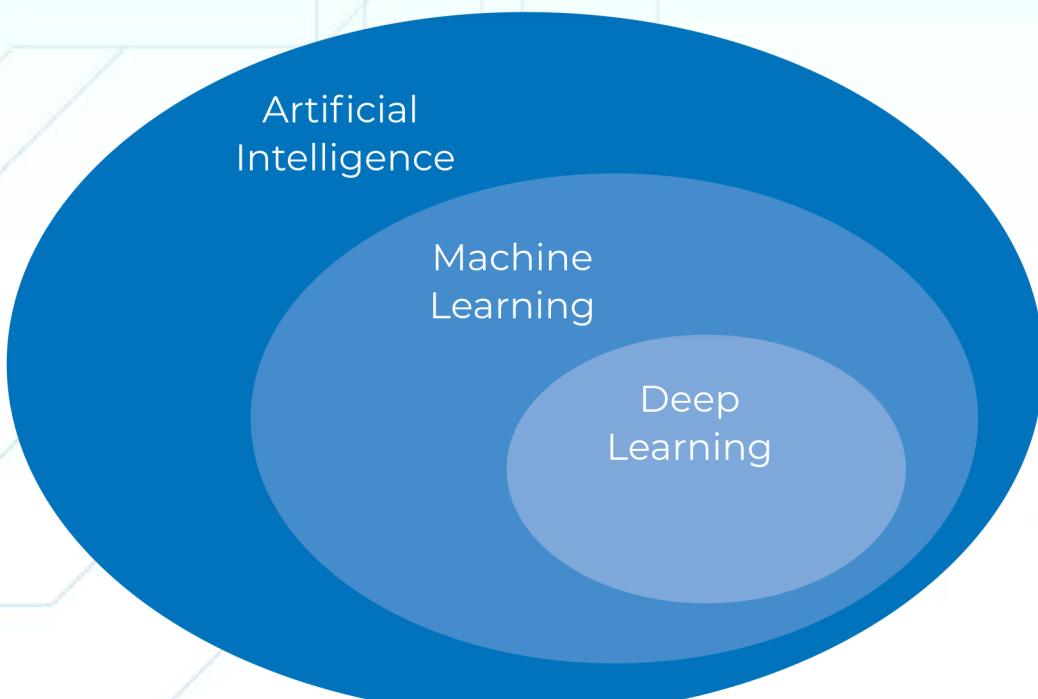
Ah Well !!! If you don't understand the nitty gritty of AI, any investment your company makes in AI would merely be a "leap of faith". This white paper seeks to demystify AI.



Here are a set of questions to help you determine if investment in AI is necessary:

### **What is the difference between Machine Learning (ML), Deep Learning (DL) and Artificial Intelligence (AI)?**

Machine Learning is a subset of Artificial Intelligence. So ML counts as AI, but not all AI count as ML. As an example expert systems and knowledge graphs can be described as a part of AI, but none of them are Machine Learning. One aspect that differentiates ML from expert systems and knowledge graphs is that the ML can "Learn" and modify itself when exposed to more data. This makes ML less dependent on human experts.



### **Is the Prediction that you are trying to make Complex Enough to warrant an investment in AI?**

The first question you need to ask yourself is - Can I have a set of "If-Then-Else" Scenarios that can handle my present predicament? If the answer is "YES", you don't need to invest in AI.

## **What is the difference between Traditional Business Intelligence and Machine Learning?**

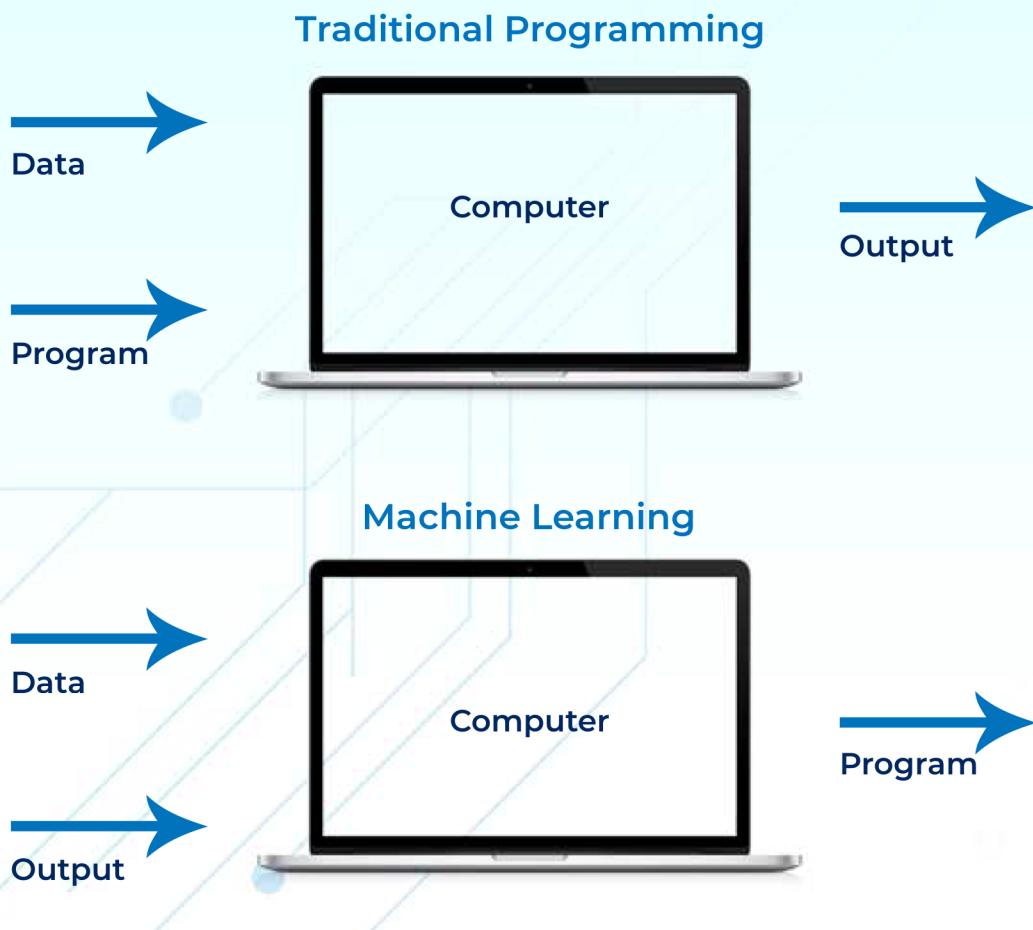
The first question you need to ask yourself is - Can I have a set of "If-Then-Else" Scenarios that can handle my present predicament? If the answer is "YES", you don't need to invest in AI.

<b>Traditional Business Intelligence</b>	<b>Machine Learning</b>
Based on manually specified set of rules.	Based on self-learning algorithms.
Needs Structured Data.	Uses Un-Structured Data / Raw Data.
Predicted outcomes need to be manually improved based on observations.	Continuously improves accuracy, assuming that the new data belongs to the same distribution. (When the nature of data changes, a new Data Model may be required)
Long turnaround time from analysis to action.	Near real-time turnaround between analysis and action.
Manually specified attributes (features) are used as key inputs to arrive at business intelligence.	All attributes (features) can be used in Machine Learning. Also new features can be created/extracted using Deep Learning

## **Is there a precedent of any successful outcome by applying machine learning to my specific problem?**

If the answer is "NO", then it is judicious not to experiment, unless otherwise you are a Research oriented company.

The figure below helps you to better understand the difference between traditional programming and ML:



### **What are some of the well-established business use cases for Machine Learning?**

Email spam filters, Product / music / movie recommendation, Speech recognition, Real-time bidding for online advertising, Credit card purchase fraud detection, Supply Chain and Demand Forecasting, Click-through Prediction etc. Basically any business problem where you have hard data, variability, and a large number of examples. For some more details check on the section.

**"How can Ayamih Consultants help you in your AI quest?"**

## **Do I have a well-defined and specific problem That AI Can Solve?**

The utilization of AI is business/department/problem specific. AI should not be utilized if it does not bring value to the company.

## **Do I know what I want to achieve with AI?**

As with any new/emerging Technology, it is imperative to know the exact Outcomes that you want to achieve with this technology. Start with the business outcome and then work backward.

## **Can I Improve my Operations And Marketing with AI-Powered Customer Data Analytics?**

There are many opportunities to increase your sales, and explore new markets for furthering your sales with big data and AI powered business models.

## **Can I experiment with AI on a small scale?**

Certainly So But before you even start with experimentation, research on how AI is used in your particular industry. Then experiment with some quick simple algorithms on [Google Cloud ML](#), [Amazon Sagemaker](#), [Azure Machine Learning Studio](#). In case you are just a startup and face constraints in GPU, you can also experiment with [Google Collaboratory](#)

## **Are my Customers demanding an AI-Powered Experience?**

You are no longer competing with your competitors in your industry vertical for your customers. And that's because your customers don't evaluate their experiences by industry vertical anymore. [Don't settle for the best customer experience in your industry, deliver the best !!!](#)

# How to make your company AI ready?

## Map your Business Processes.

Take a close look at all your existing business processes and Map them. Look out for procedures and decisions that are made frequently. As an example consider a case like approving or denying a loan application.

- Collect as much data as is possible about How the decision was made
- Collect as much data as is possible about The Data that was used to make it.
- Collect the Actual Decision taken.

## Data Mine Raw Un-Structured Data.

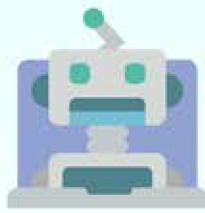
Machine Learning needs a lot of good quality data to learn the right things. Many companies are already data mining data from their processes, customers, employees, and systems for Machine Learning purpose. For good ML different data is needed.

As an example, to analyse and learn from processes you need to collect the duration of operations instead of merely the date-time stamp of the state. And this is different from the data that many ERP systems are currently collecting because the purpose of data is different.

So to implement Machine Learning we need to rethink all data we are collecting and start collecting data for ML purpose. Many of these data sources will not necessarily be available within the organizational boundaries.

It is **Important** to note that, the Un-Structured data that goes into the decision is more important than the processed Structured Data that you may be using in your company. Yep, the Raw Unstructured Data can provide more insights than you previously thought was possible !!!!!

# How can Ayamih Consultants help you in your AI quest?



## Understand Images and Videos:

We use Deep Learning and Classical Computer Vision techniques to extract relevant information from images and videos.



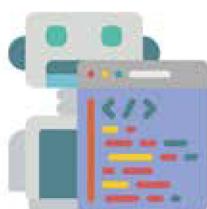
## Understand Text:

We use NLP and NLU to transform text into structured data, which can be used as input for multiple applications.



## Build Forecasting Models:

We leveraging on multiple sources of data and build powerful predictive models that can help in decision making and automation of tasks and business processes.



## Full Stack & IoT Development:

We provide these additional complimentary services so as to provide a “One Stop Shop” for our Clients.