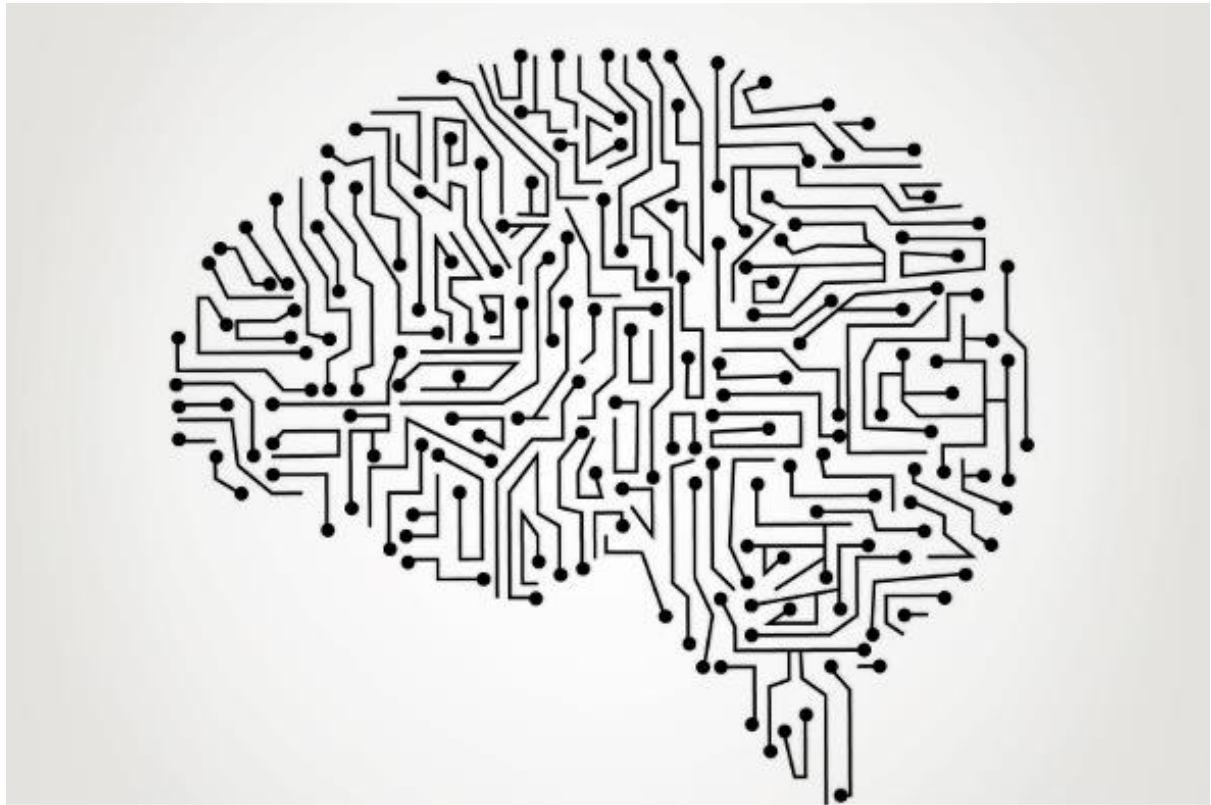


# AI and ML in Human Resource



**Artificial intelligence** is defined as “an ideal ‘intelligent’ machine [that] is a flexible rational agent that perceives its environment and takes actions that maximize its chance of success at some goal.”

AI and ML are making impression in various sections of business, from financial planning to supply chain management, Human Resource management will no longer be an exception to this revolution. Data has to be used to make decision about people as used in other departments.

**Below are the few of areas where AI and ML could be applied to answer human resources related problems:**

**Attracting Talent:**

- Identify and persuade right candidates.
- Internal hiring

**Hiring Process:**

Resume filtering and recommendation.

**Predicting Attrition:**

- Prediction probability of individual attrition.
- Factor and pattern recognition to avoid attrition.

**Enhance behaviour tracking:**

- Classification of employees to predict future performance.
- Assist decision making in potential promotion candidates.
- Employee benefits determination to gain most efficiency.

**Skill management:**

- Training recommendations.

## Challenges in analytics for Human Resource:

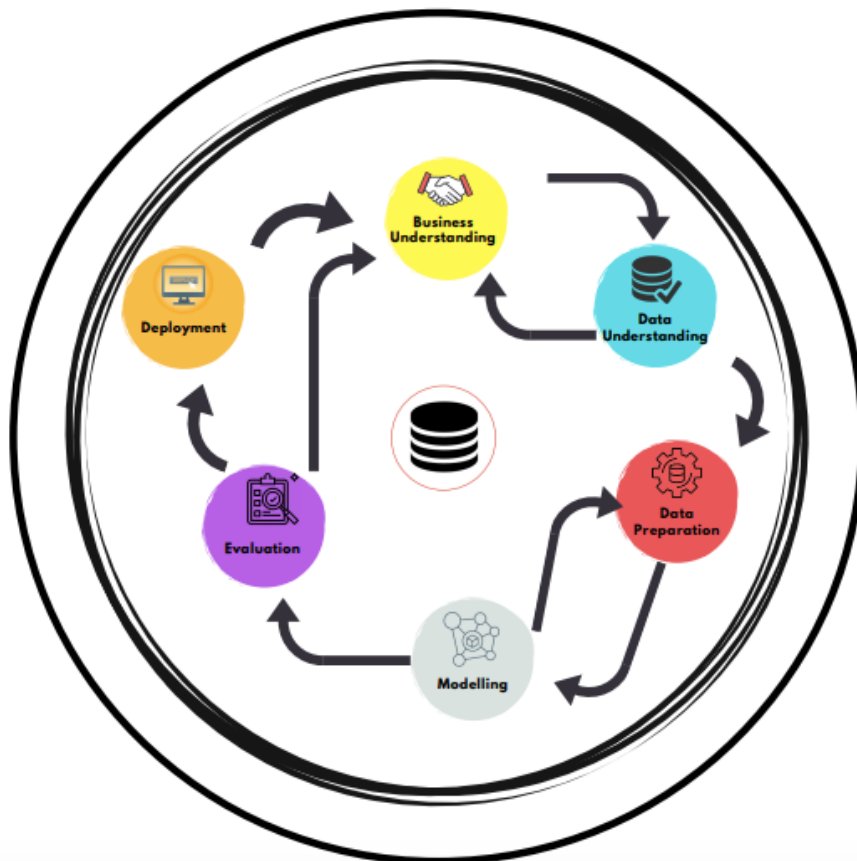
Solutions required for HR using AI and ML are much more complex as compared to other fields such as marketing. In these fields questions to be answered are distinguished by their relative clarity i.e. whether customer will buy or not, and data points could be easily defined and measured.

Application of AI and ML in human resources often faces below challenges:

1. Defining data points is relatively complex. E.g. Whom to classify as 'Good Employee'.
2. Data is relatively less.
3. Decision should incorporate socio-psychological factor eg. Diversification.
4. Smallest of decision has very high stakes. i.e. impacting individuals career.

## AI and ML process:

1. Data Generation - Collecting data
2. Data Cleaning - Multiple source of data based on system/software used.
3. Understanding Data
4. ML - Prediction/Classification/Recommendation.
5. Decision Making



## Problem Statement for Hackathon:

**Use case owner:** Swati Dhingra/Jasmeet Gujral

Create an AI solution to achieve these objectives a) measure motivation levels of our people b) flag potential attrition cases basis parameters (assume variables and parameters affecting this)

**Probable dataset:** Data set will be available at the following link.

<https://github.com/quantsbin/NWMHackathon>

**FileName:**

*NWMHackathonAIDataset.csv*

**Recommended Tech Stack:**

Python

- *Data wrangling:* Numpy, Pandas
- *Exploratory analysis:* Scipy, Plotting tools like Plotly, Matplotlib and Seaborn
- *ML/DL:* Scikit-Learn, Tensorflow, Lime

*Please note that above tech stack is a recommendation from our side and not a mandate.*

**What's the end product?**

A working prototype of a new and innovative idea that is related to the People Engagement at industry level.

**Evaluation Criteria:**

Evaluation will be based on following parameters:

1. Recommendation System used
2. Macroeconomics Indicator (Optional)
3. Explanation of model used
4. Ability to explain and ability to articulate

**What support will be available?**

There will be people on hand to help with technical setup, API sandbox testing and presentation practice. Every step of the process will be fully explained during the day.

AMA (Ask me Anything) Sessions to get your questions answered by mentors from NatWestMarkets .