

AI: Machine Learning

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Artificial Intelligence (AI) has become one of the most searched for terms on the internet over the past year. In reality most people do not really understand what AI actually is, other than the fear of what we may have seen in sci-fi movies such as iRobot.

There are distinctly different technological developments at play in the world today which get conflated when discussing AI. This week we focus on Machine Learning (ML).

AI is a broader concept that encompasses the development of systems or machines capable of performing tasks that typically require human intelligence. It aims to create intelligent agents that can reason, learn, perceive their environment, and make decisions. Machine Learning (ML) on the other hand is a subset of AI focused on developing algorithms and models that enable computers to learn from data. Instead of explicitly programmed instructions, ML systems use statistical techniques to improve their performance on a specific task over time.

The approach these two take to learning also needs to be differentiated. Traditional AI approaches involve rule-based systems where programmers explicitly define rules and logic for the system to follow. This may involve complex decision trees or expert systems. ML, on the other hand, relies on data-driven approaches. It enables systems to learn patterns and make predictions or decisions without being explicitly programmed. This is achieved through various techniques such as supervised learning, unsupervised learning, and reinforcement learning.

Traditional AI systems are often rigid and may struggle to adapt to new or unforeseen situations since they rely heavily on predefined rules. ML systems are designed to adapt and improve their performance as they are exposed to more data. They can generalize patterns from training data to make predictions or decisions in new, unseen situations.

A company which has leveraged machine learning across various aspects of its business is Microsoft. Office 365 has used ML to enhance user experience, productivity, and security. ML algorithms in Office 365 analyze user behavior, preferences, and patterns to provide personalized recommendations and insights. For example, in Microsoft Excel, features like "Insights" use machine learning to discover patterns in data and provide contextually relevant suggestions.

The reason we use Microsoft as an example in this note is because Microsoft is an established business with many business lines and revenue streams which have been tested over the past 50 years. This company has used technological advances, be it the adoption of the internet, the move from office based servers to cloud computing and more recently Artificial Intelligence and Machine Learning to enhance its core product offering and improve its customer offer.

Machine Learning is now whilst Artificial Intelligence is the future. At Tacit we have always preferred to invest in companies which balance current cashflows with the potential future cashflows of newer technologies even though we understand these come with different risks. They can also provide significant rewards if managed well, but understanding them is not as simple as saying 'Artificial Intelligence'.

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