

Difference between different branches

| Artificial Intelligence | Machine Learning | Deep Learning |
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| AI stands for Artificial Intelligence, and is basically the study/process which enables machines to mimic human behaviour through a particular algorithm. | ML stands for Machine Learning, and is the study that uses statistical methods enabling machines to improve with experience. | DL stands for Deep Learning, and is the study that makes use of Neural Networks(similar to neurons present in the human brain) to imitate functionality just like a human brain. |
| AI is the broader family consisting of ML and DL as it's components. | ML is the subset of AI. | DL is the subset of ML. |
| AI is a computer algorithm which exhibits intelligence through decision making. | ML is an AI algorithm which allows systems to learn from data. | DL is a ML algorithm that uses deep(more than one layer) neural networks to analyze data and provide output accordingly. |

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| Search Trees and much complex math is involved in AI. | If you have a clear idea about the logic(math) involved in behind and you can visualize the complex functionalities like K-Mean, Support Vector Machines, etc., then it defines the ML aspect. | If you are clear about the math involved in it but don't have an idea about the features, so you break the complex functionalities into linear/lower dimension features by adding more layers, then it defines the DL aspect. |
| The aim is to basically increase chances of success and not accuracy. | The aim is to increase accuracy not caring much about the success ratio. | It attains the highest rank in terms of accuracy(most of the times) when it is trained with large amounts of data. |
| Three broad categories/types Of AI are: Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI) and Artificial Super Intelligence (ASI) | Three broad categories/types Of ML are: Supervised Learning, Unsupervised Learning and Reinforcement Learning *Reinforcement learning is often considered part of AI only | DL can be considered as neural networks with a large number of parameters layers lying in one of the four fundamental network architectures: Unsupervised Pre-trained Networks, Convolutional Neural Networks, Recurrent Neural |

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| | | Networks and Recursive Neural Networks |
| The efficiency Of AI is basically the efficiency provided by ML and DL respectively. | Less efficient than DL as it can't work for longer dimensions or higher amounts of data. | More powerful than ML as it can easily work for larger sets of data. |
| Examples of AI applications include: Google's AI-Powered Predictions, Ridesharing Apps Like Uber and Lyft, Commercial Flights Use an AI Autopilot, etc. | Examples of ML applications include: Virtual Personal Assistants: Siri, Alexa, Google, etc., Email Spam and Malware Filtering. | Examples of DL applications include: Sentiment based news aggregation, Image analysis and caption generation, etc. |

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Although from the above table it may seem that ML is the least useful technique but this is not the case. Deep learning, since it involves high grade mathematics and Highly cleaned dataset, cannot be used everywhere.

Machine Learning can also perform well on imbalanced data and unclean data(one with many outliers). Also, DL is computationally very expensive.

ML provides a wide variety of usage to people in every industry. Whilst DL is very industry specific.
