Relationship of Artificial Intelligence, Machine Learning and Deep Learning: 101

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In 1950's is the year of Artificial Intelligence (AI) was born. Artificial intelligence is already part of our everyday lives. Artificial intelligence started off and in their simplest forms, it worked rule-based and knowledge-based systems. For example, if you write "Hi machine" then the output from machine is "Hello boy!". So, I think in 1950's until 1980's the main concept from Artificial intelligence is "the good scenarios will produce a good machine". We know the majority of event is irregular and sometimes developing tacitly. So, it is almost impossible for us to write every possible event in the form of the rules and the instructions for the machine to follow it.

In 1980's is the year of Machine Learning was born. With machine learning algorithms, the machine can learn based on previous data points, the system identifies patterns and reach decisions that should be subjective. For example, "Is this spam email or not?" (classification) or "How much our profit on next month?" (regression). Yes, it worked history-based systems. So, the main concept from Machine Learning is "the good and more data will produce a good machine".

In 2010's is the year of Deep Learning was born. Deep Learning is changing the way we look at technologies, help us to make science fiction state we have so long imagine can be implemented. Deep learning is a subset of machine learning because Deep Learning has enabled many practical applications of machine learning and by extension the overall field of AI. The popular example of deep learning is image recognition, it aims to recognize and identify people and object in image as well as to understand the content and context. We know every smartphone flagship in 2019 used face recognition (implemented image recognition in face) to lock screen.

From this history we know the basic relationships from Relationship of Artificial Intelligence, Machine Learning and Deep Learning. We can draw illustration of mathematics symbol as Artificial Intelligence ⊃ Machine Learning ⊃ Deep Learning. Artificial Intelligent is early artificial intelligence stirs excitement, Machine Learning begins to flourish and Deep learning breakthroughs drive AI booms. Analogy in human, Artificial Intelligence is the full body with the head as a cosmetic and Machine learning is the body with the head as the really head but the brain as a cosmetic and Deep Learning is Human with the good brain.

If you have a related question that, you would like to pose you can send that to ilhamalpian13@gmail.com

Come on we learn together about data science to be a good data scientist, because data science is a friendly and approachable subject!

Goodluck.

Reference:
Pierson, P.E, Lillian. Data Science For Dummies, John Wiley & Sons, Inc, 2015.

https://medium.com/datadriveninvestor/ai-vs-machine-learning-vs-deep-learning-ba3b3c58c32

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