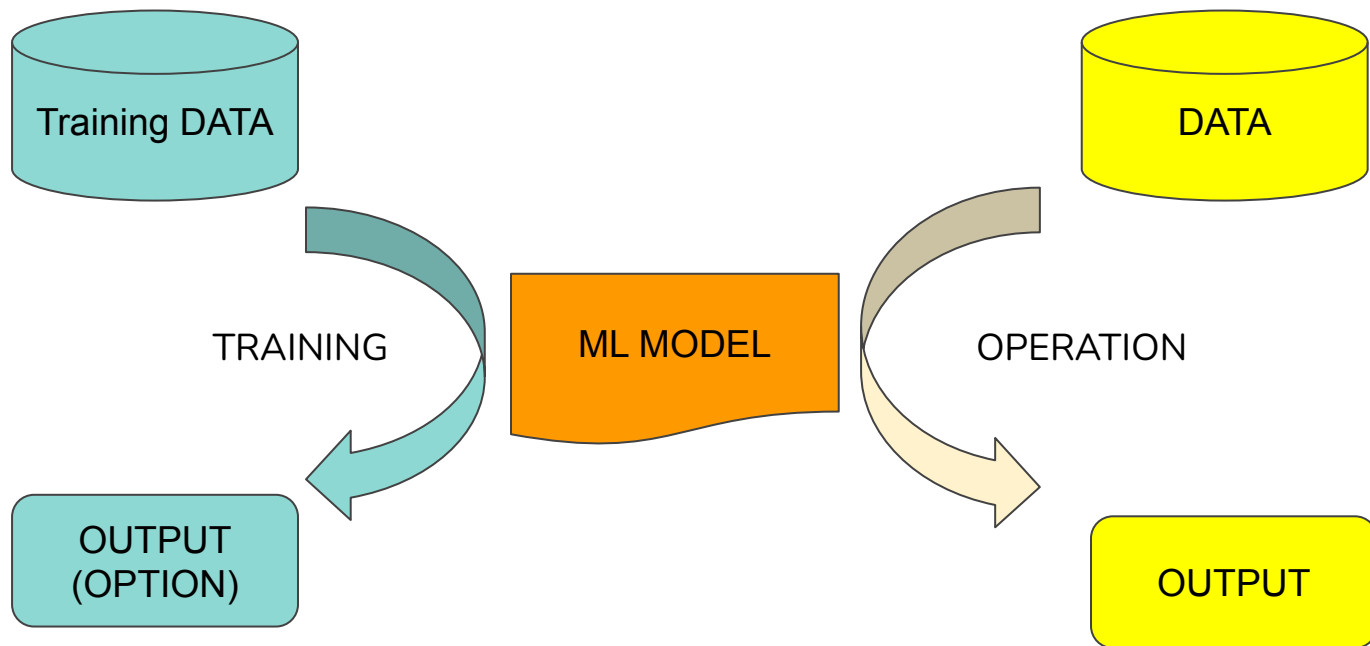


ML & Generative AI

May 20th, 2023

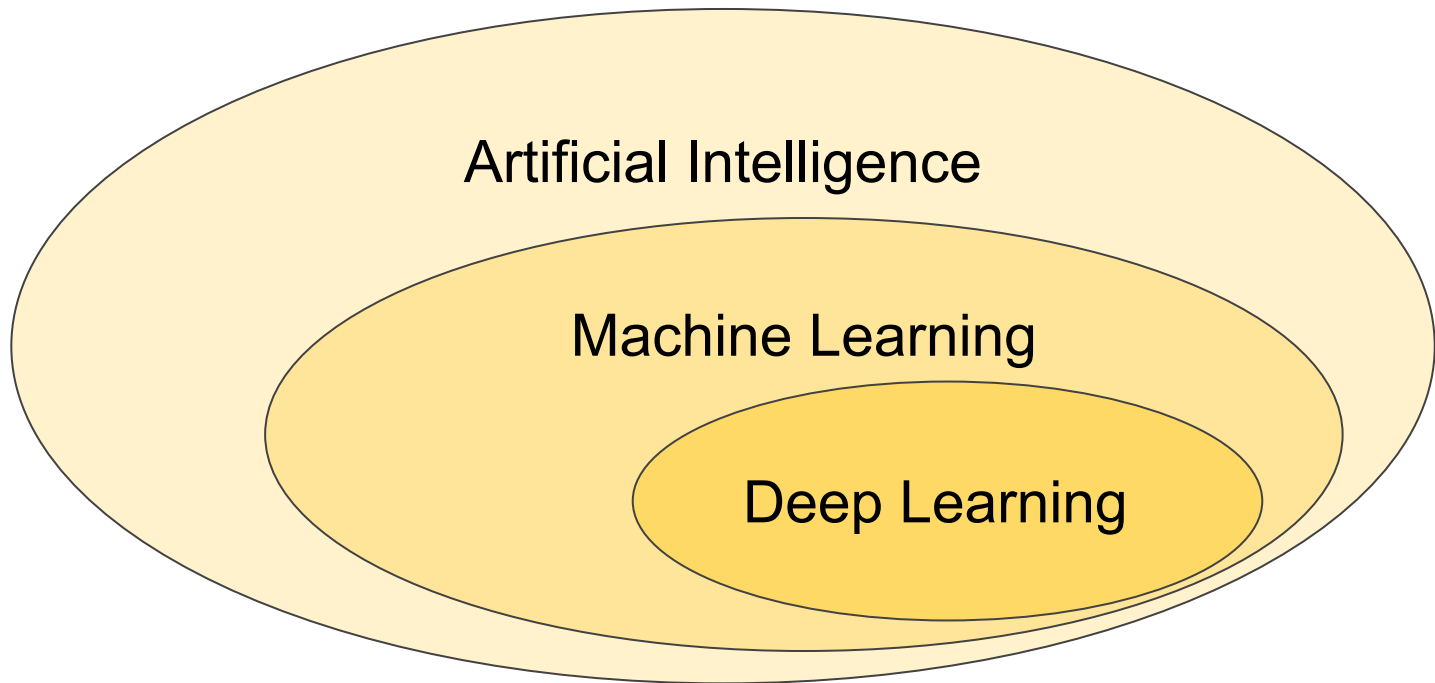


What is Machine Learning?





What is AI, Machine Learning?





Neural Network

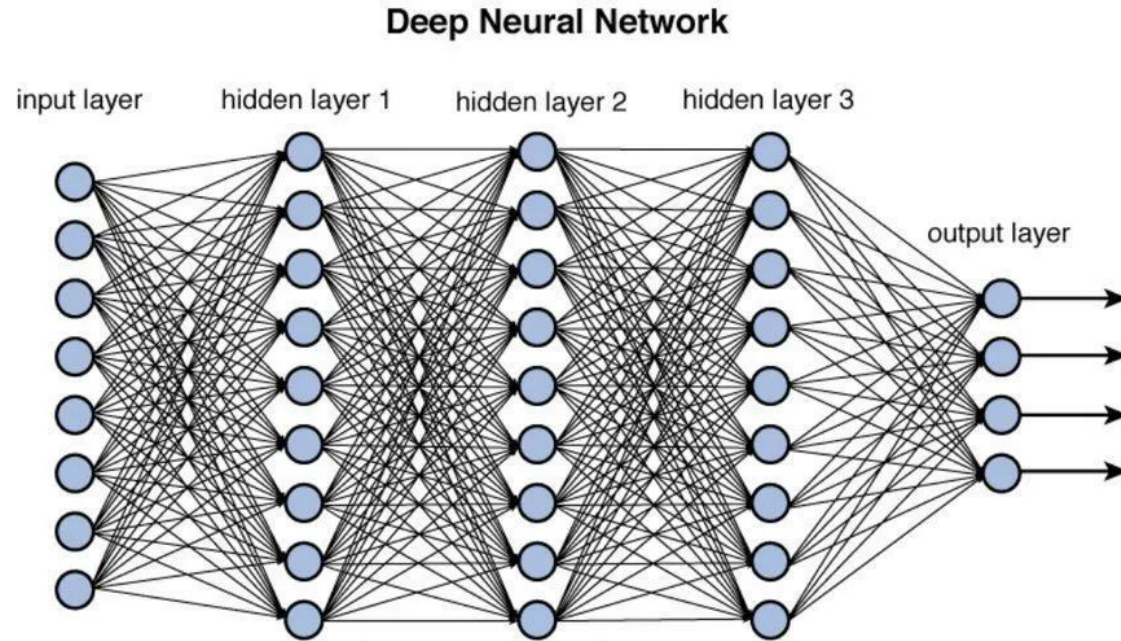


Figure 12.2 Deep network architecture with multiple layers.



Machine Learning Types

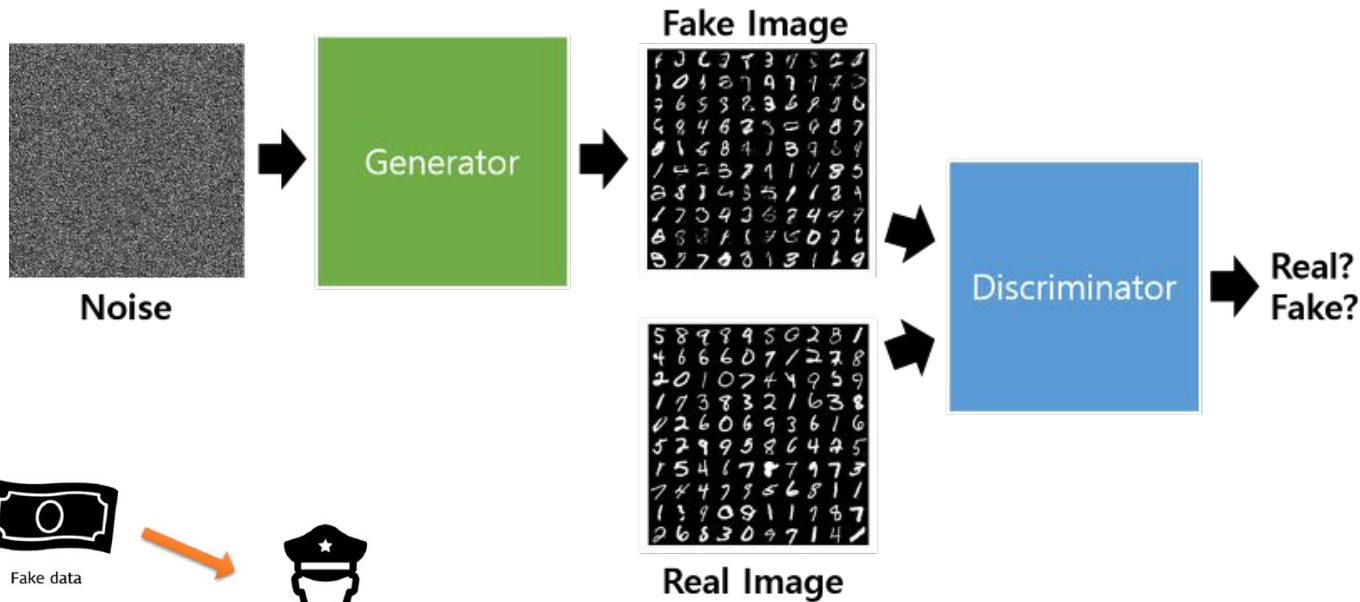
- **Supervised learning**
Classification - Wether
Regression - Stock
- **Unsupervised learning**
Clustering - Group
Transform - Image
Association - Relation
- **Reinforcement learning**



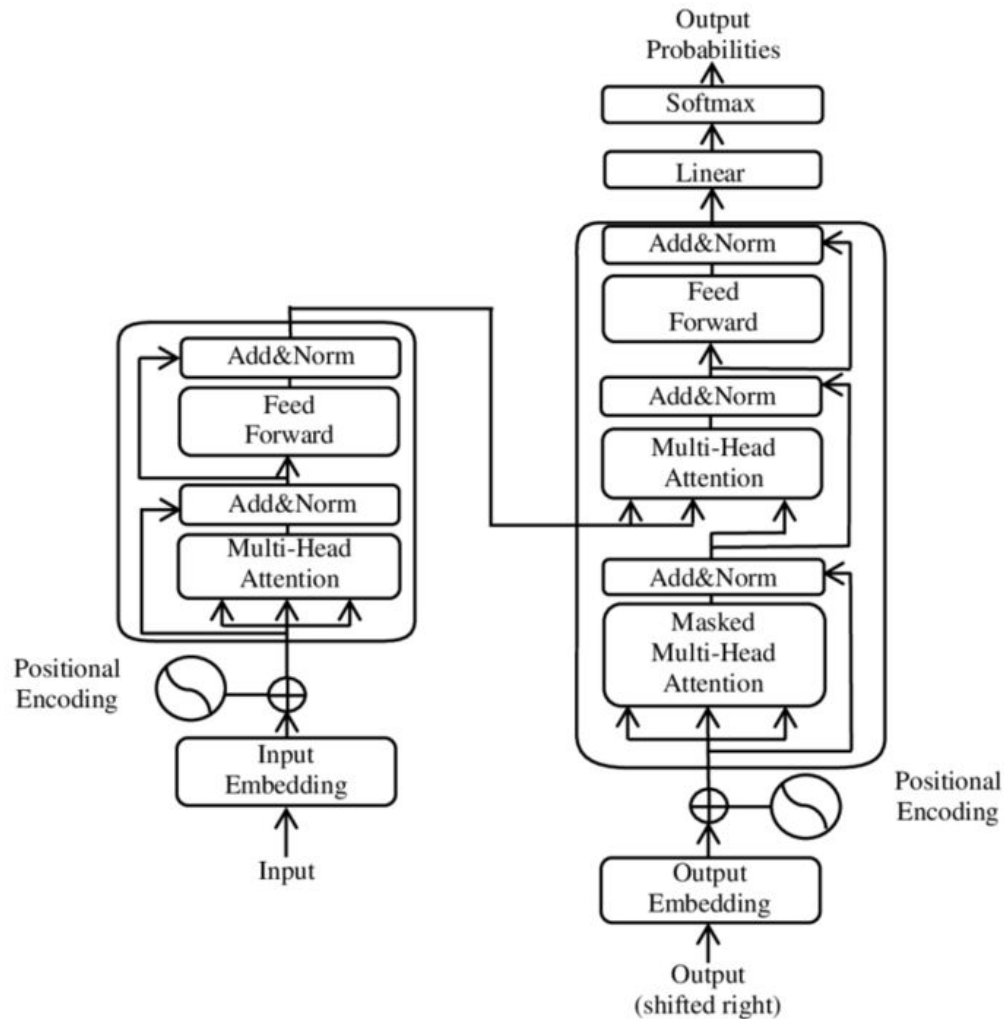
Machine Learning Model

- Models : ANN, DNN, CNN. RNN, GAN
- GAN(Generative Adversarial Network): Ian Goodfellow in 2014
 - Old style AI: Understand with data
 - Generative AI: **Create a wide variety of data**, such as images, videos, audio, text, and 3D models.
- Transformer
 - In 2017 by a Google Brain research team
 - Encoder/decoder architecture
 - Self-attention

GAN(Generative Adversarial Network)



Transformer



Issue by Generative AI



#1 winner of Competition in 2022,
“Space Opera Theater”

- Negative impact: Harmful contents, Copyright, Data privacy...
- Killer or Helper?



Reference

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