

# History of Generative AI

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# Some thoughts

- "Those who cannot remember the past are condemned to repeat it."  
(George Santayana)
- "History is philosophy teaching by examples."(Thucydides)
- "History is the memory of things said and done."(Carl Becker)
- "We need to understand history as an ongoing, living process."(Howard Zinn)
- "History, in the end, becomes a form of self-knowledge."(Henry Steele Commager)

# Step By Step Development

- Rule Based Approach
- Machine Learning
- Deep Learning
- Generative AI

## HISTORY OF GENERATIVE AI



# Rule Based Approach (1950 - 1970)

Rule-based systems are a basic type of AI model that uses a set of prewritten rules to make decisions and solve problems. Developers create rules based on human expert knowledge, which then enable the system to process input data and produce a result. Generally it use if-then rules to derive actions from conditions.

## Limitations:

- Need Human labor
- Can't deal with complex problem
- Hard for unstructured data (text, image, video)

# Machine Learning (1960s - 2010s)

Machine learning (ML) is a study of statistical algorithms that can learn from data and generalize to unseen data and thus perform tasks without explicit instructions

1960s : Naive Bayes, k-Nearest Neighbors (k-NN)

1970s: Decision Trees, Lasso regression, ridge regression

1980s: k-Means Clustering, Q-Learning (Reinforcement Learning)

1990s: Support Vector Machines (SVM), Principal Component Analysis (PCA), Random Forest, AdaBoost

2000s: Gradient Boosting Machines (GBM), XGBoost

2010s: CatBoost, LightGBM

# Deep Learning (1980s - Continue)

Deep learning is a subset of [machine learning](#) methods based on [neural networks](#) with [representation learning](#). Mainly it starts from 1957 through perceptron.

1980s: Backpropagation

1990s: Long Short-Term Memory (LSTM), Convolutional Neural Networks (CNN)

2000s: Deep Belief Networks (DBNs)

2010s to Continue: Transfer Learning (VGGNet, AlexNet, ResNet etc.), UNet, Seq2Seq, Transformer, BERT, GPT, T5, ViT, Graph Neural Networks (GNNs) etc

# Generative AI (2010s - Continue)

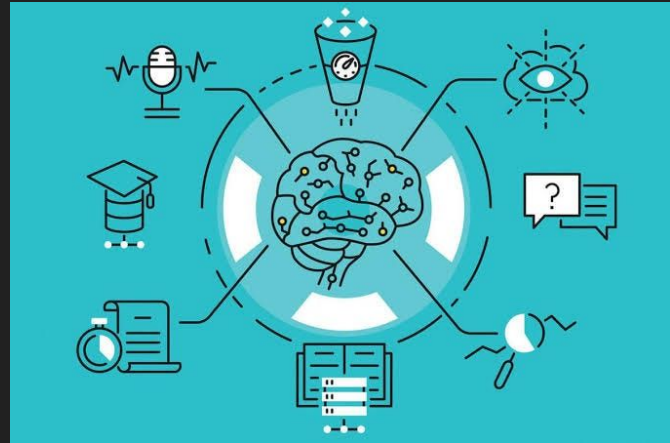
Generative AI refers to a subset of Deep Learning that focuses on creating any type of data such as image, text, audio, video and others.

2010s: GANs, VAEs, Transformers, Pix2Pix, DCGAN, StyleGAN, GPT1-2, T5 etc.

2020s - Continue: GPT3-4, DALL-E 1-2, CLIP(Multimodal), Llama1-3, Claude, Gemini, MidJourney, RAG (Retrieval Augmented Generation) etc.



BY ANTHROPIC



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