

TECH THAT PEOPLE CALL “ARTIFICIAL INTELLIGENCE”

MACHINE LEARNING

Statistical (based on data)

Note: Machine learning is currently the most popular approach, but some believe that automated reasoning may make a comeback or that these two branches may be combined in new ways.

AUTOMATED REASONING

Symbolic (based on rules)

**EXPERT
SYSTEMS**

Deep Blue recommended chess moves by using the rules of the game and searching a parallelized tree of many possible combinations of moves.

PLANNING

The various ghosts in **Pac-Man** are programmed to chase you using different pathfinding methods. (Blinky, the red ghost, is most aggressive!)

**LABELED
DATASETS**

CLASSIFICATION

FaceID classifies images of faces using convolutional neural networks (CNNs).

**MIXTURE OF
LABELED &
UNLABELED
DATASETS**

GENERATIVE

DALL-E produces images from text through an iterative process using a diffusion model.

REINFORCEMENT

ChatGPT generates text in response to typed prompts using a transformer deep learning model.

AlphaGo develops strategies for the game go using self-play reinforcement learning.

**UNLABELED
DATASETS**

CLUSTERING

Spotify clusters songs into music genres using hierarchical density-based spatial clustering with noise (HDBSCAN).