
DEFINITIONS OF
MACHINE LEARNING

MACHINE LEARNING – FORMAL DEFINITIONS

> A computer program is said to learn from experience *E* with respect to some class of tasks *T* and performance measure *P* if its performance at tasks in *T*, as measured by *P*, improves with experience *E*.

Tom M. Mitchell (Head of ML Deptt @ CMU)

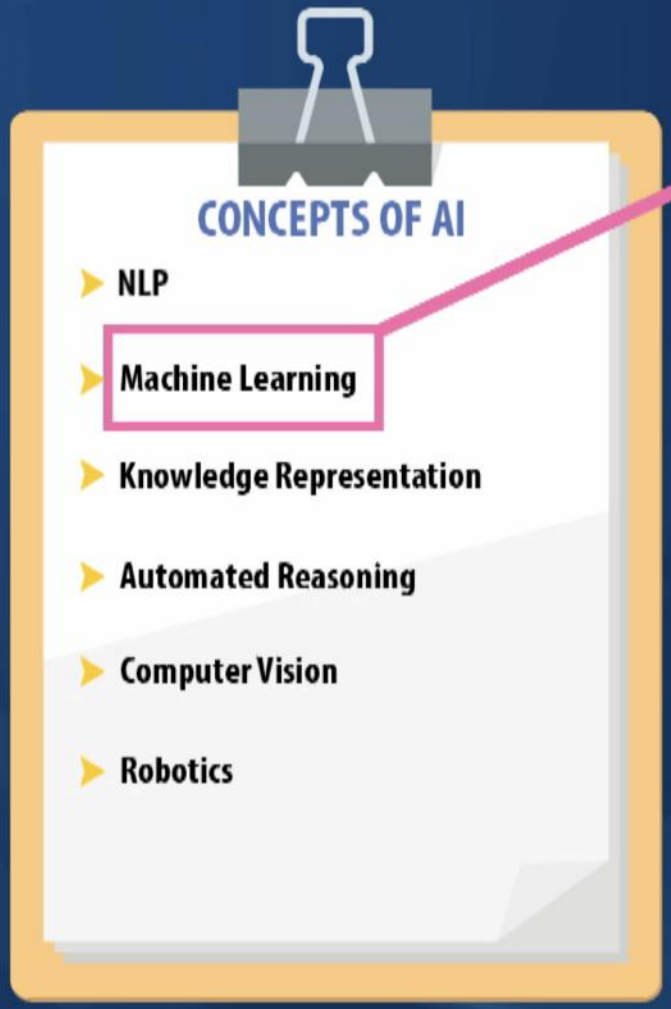
> Field of study that gives computers the ability to learn without being explicitly programmed

Arthur Samuel (an AI pioneer at IBM)

MACHINE LEARNING – DEFINITIONS

- Machine learning teaches computers to do what comes naturally to humans and animals: learn from experience.
- Machine learning algorithms use computational methods to "learn" information directly from data without relying on a predetermined equation as a model.
- The algorithms adaptively improve their performance as the number of samples available for learning increases.

ML – DEFINITIONS



An approach to create Artificial Intelligence

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APPLICATIONS UTILIZING ML ALREADY

- Amazon, Netflix (recommendation)
- Snapchat (filters)
- Google Photos (face recognition, image recognition and classification, etc.)
- Gmail (Spam, auto suggest, hotels/flights/packages/extraction, etc.)
- Google Assistant (voice, NLP, image recognition and classification in Lens mode, etc.)
- Google Search (NLP, Answer models, voice recognition, . . .)
- YouTube (video classification, video id, sensitive content detection, captioning, . . .)
- Facebook (face and image recognition, NLP (chatbots) etc.)
- Google Lens
- Google Home
- Siri, Cortana
- Phone camera (effects)
- Uber - ETA