

Machine Learning Introduction

CSE451:Neural Network & Fuzzy Logic

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“A baby learns to crawl, walk and then run. We are in the crawling stage when it comes to applying machine learning.”

-Dave Waters

Machine Learning is Like a Baby



They
Both
Learn



Experiences
Matter

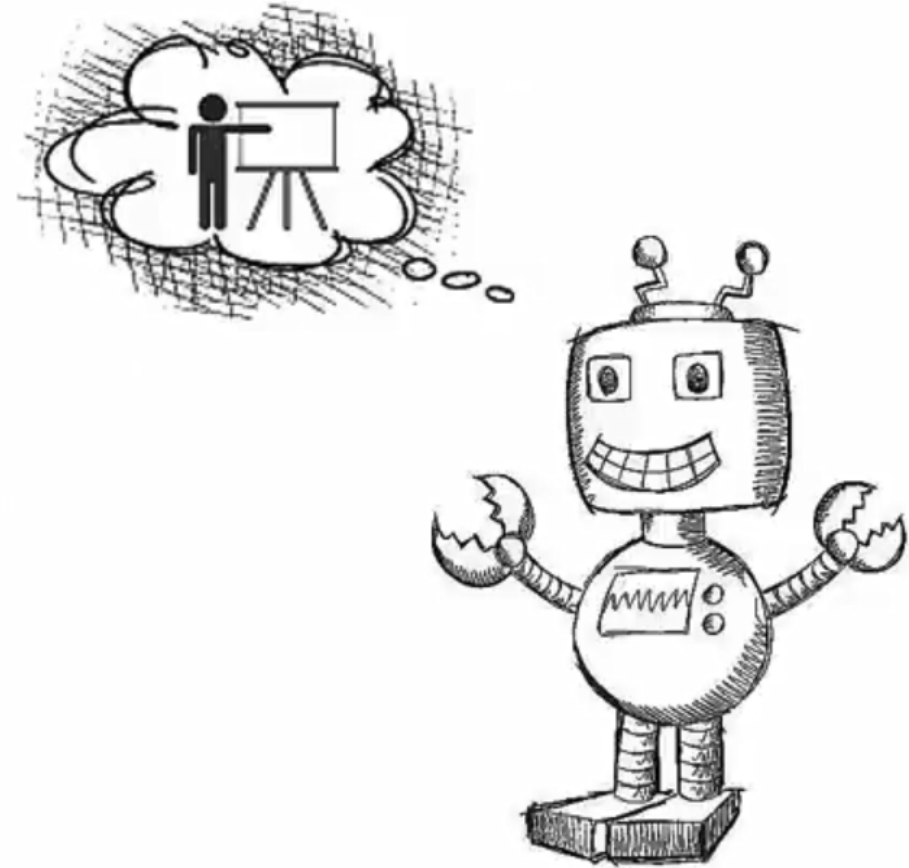


Feedback Is Important

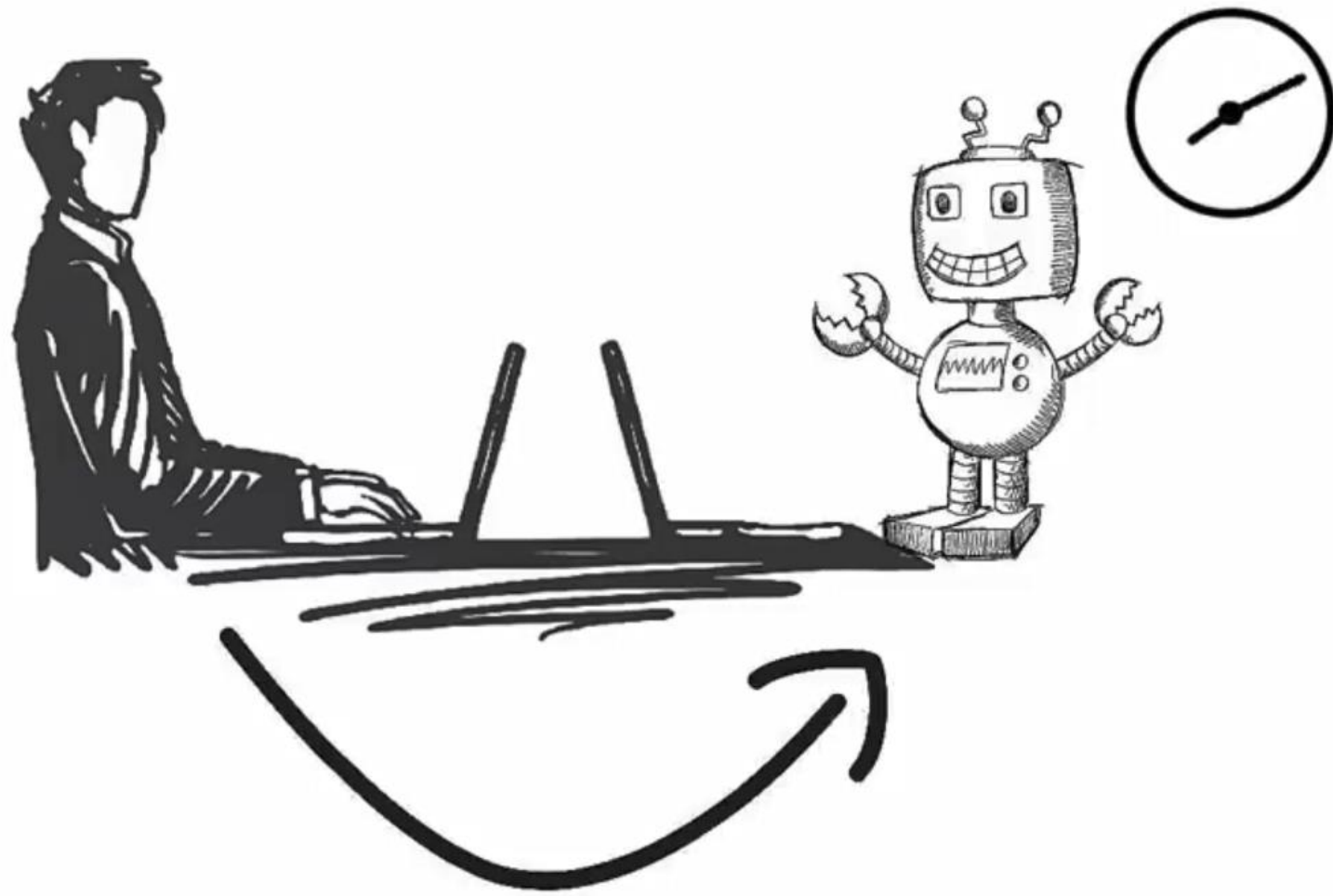




**HUMANS LEARN FROM
PAST EXPERIENCES**



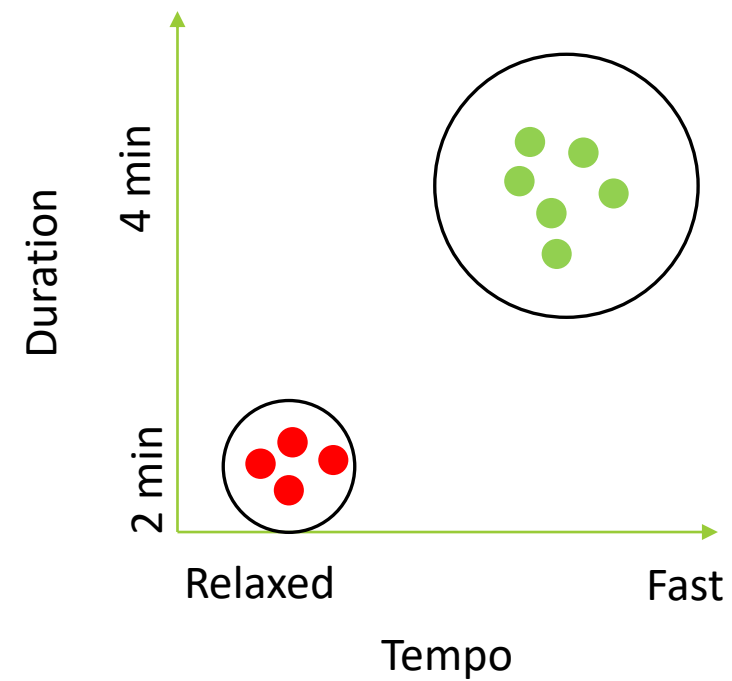
**MACHINES FOLLOW INSTRUCTIONS
GIVEN BY HUMANS**



WHAT IF HUMANS CAN TRAIN THE MACHINES...

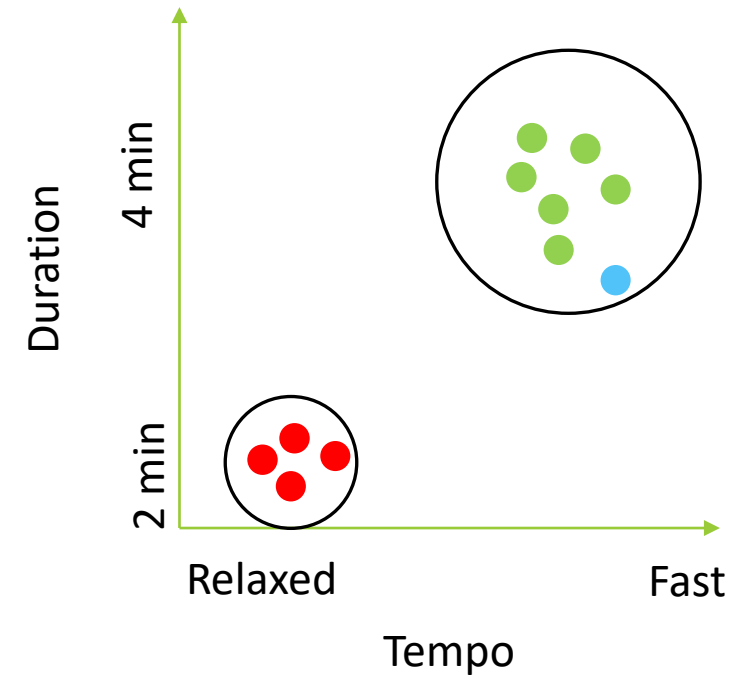


- Genre
- Tempo
- Duration



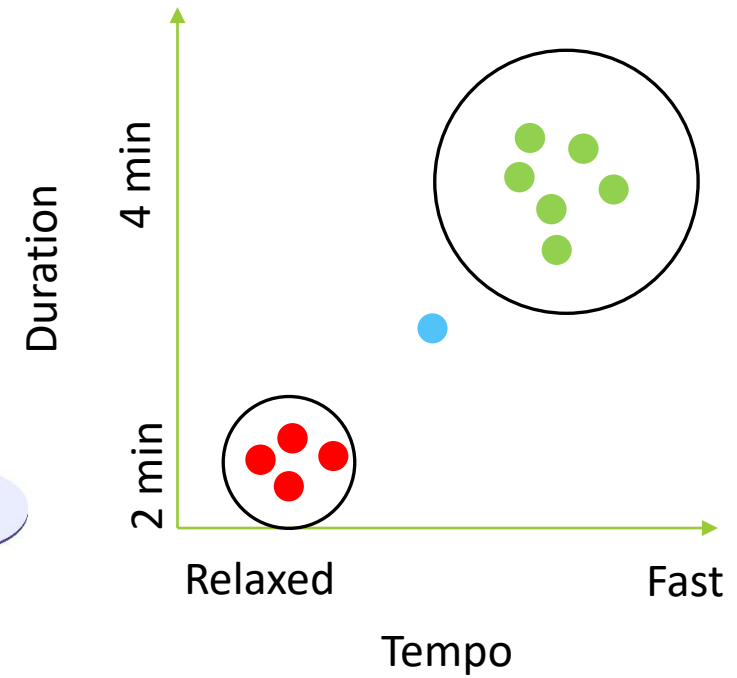


Fast Tempo
Duration – 5 minutes



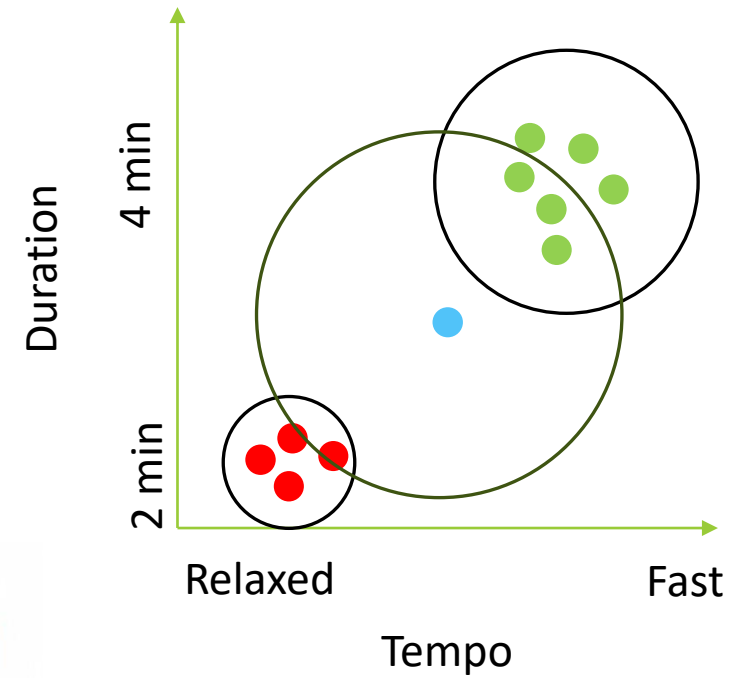


Medium Tempo
Duration – 3 minutes





Medium Tempo
Duration – 3 minutes



K-nearest neighbor

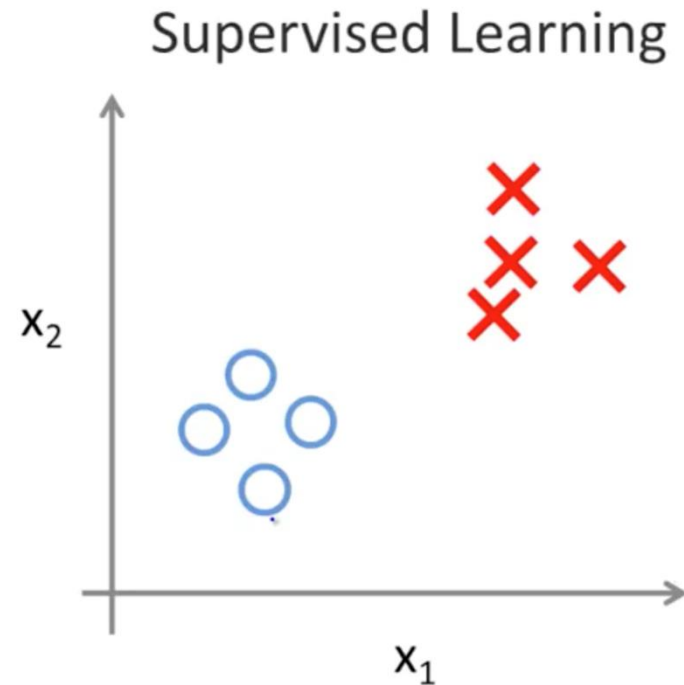
How to confuse machine learning



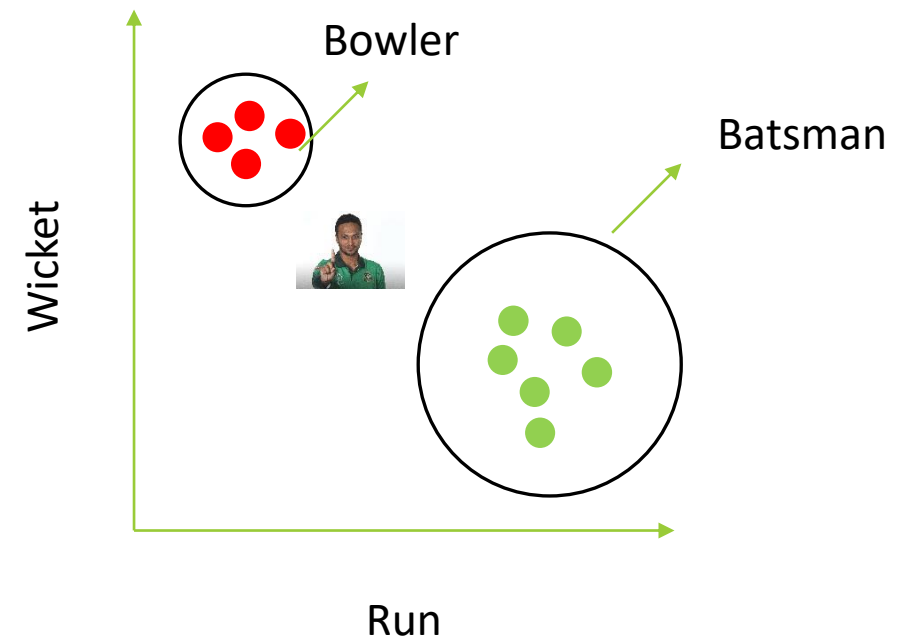
Supervised Learning

- Involves a teacher guiding machine learning using labeled data.
- Algorithm analyzes labeled training data to produce accurate outcomes.
- Goal is accurate predictions on new, unlabeled data.

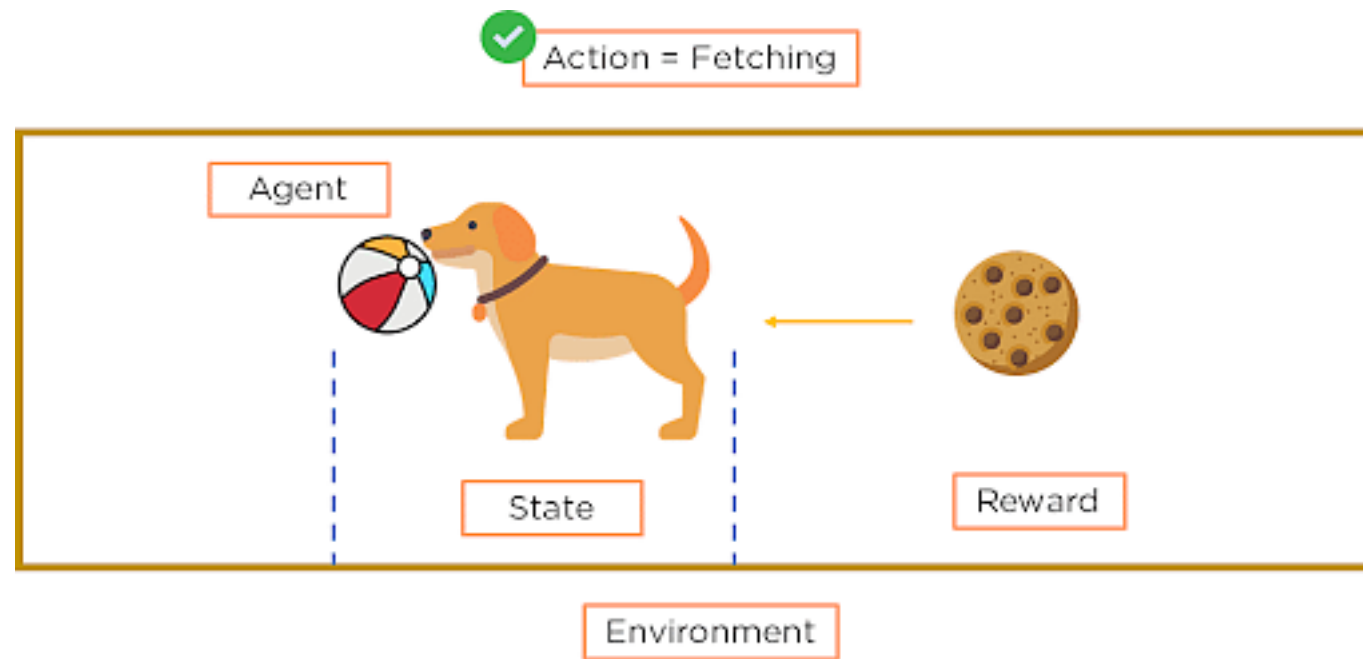
K-nearest neighbor



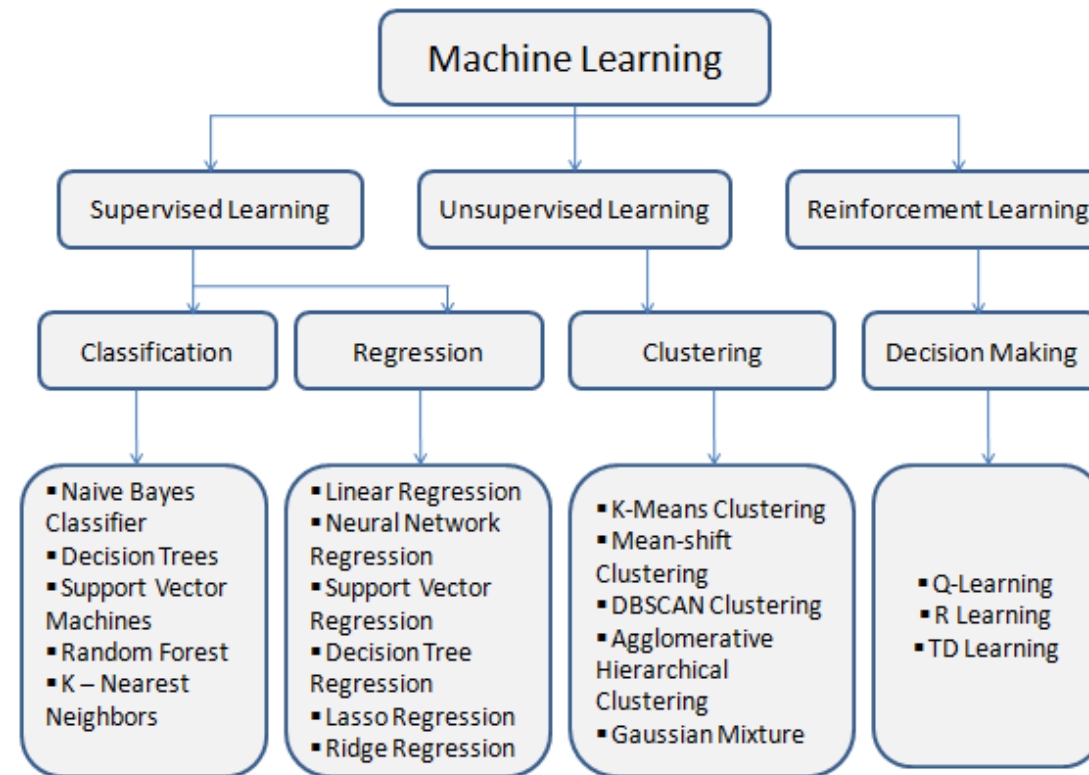
Unsupervised Learning



Reinforcement Learning



Types of Machine Learning Algorithms



**"COMPUTERS ARE
ABLE TO SEE, HEAR
AND LEARN. WELCOME
TO THE FUTURE."
-DAVE WATERS**