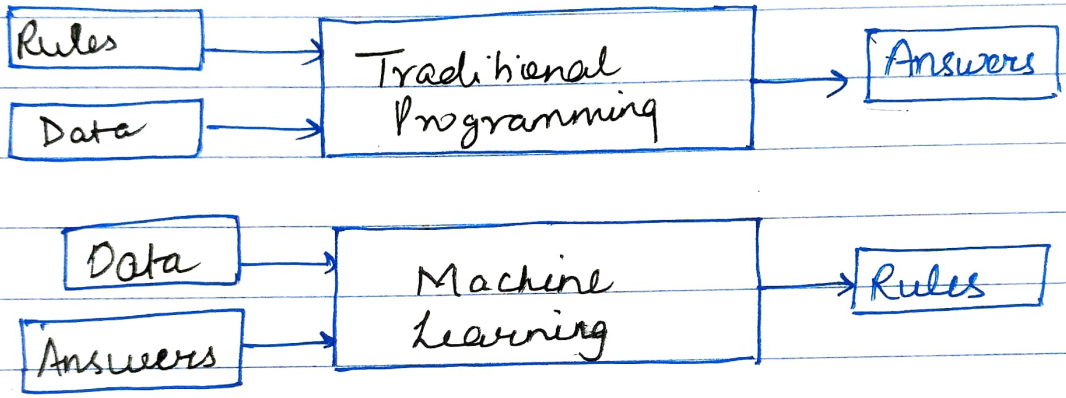
8/07/20

UDACITY - INTRODUCTION TO ML

2. What is machine learning?

It is a data science technique used to extract patterns from data allowing computers to identify related data, forecast future outcomes, behaviors & trends.

How is machine learning different from traditional programming?



Limitation of traditional programming → we ~~might~~ might not come up with the best rules.

In ML, we have historical data & the answers
Algorithm defines relationship b/w data & answers to come up with rules.

- ML allows computers to learn automatically based on observation or data.

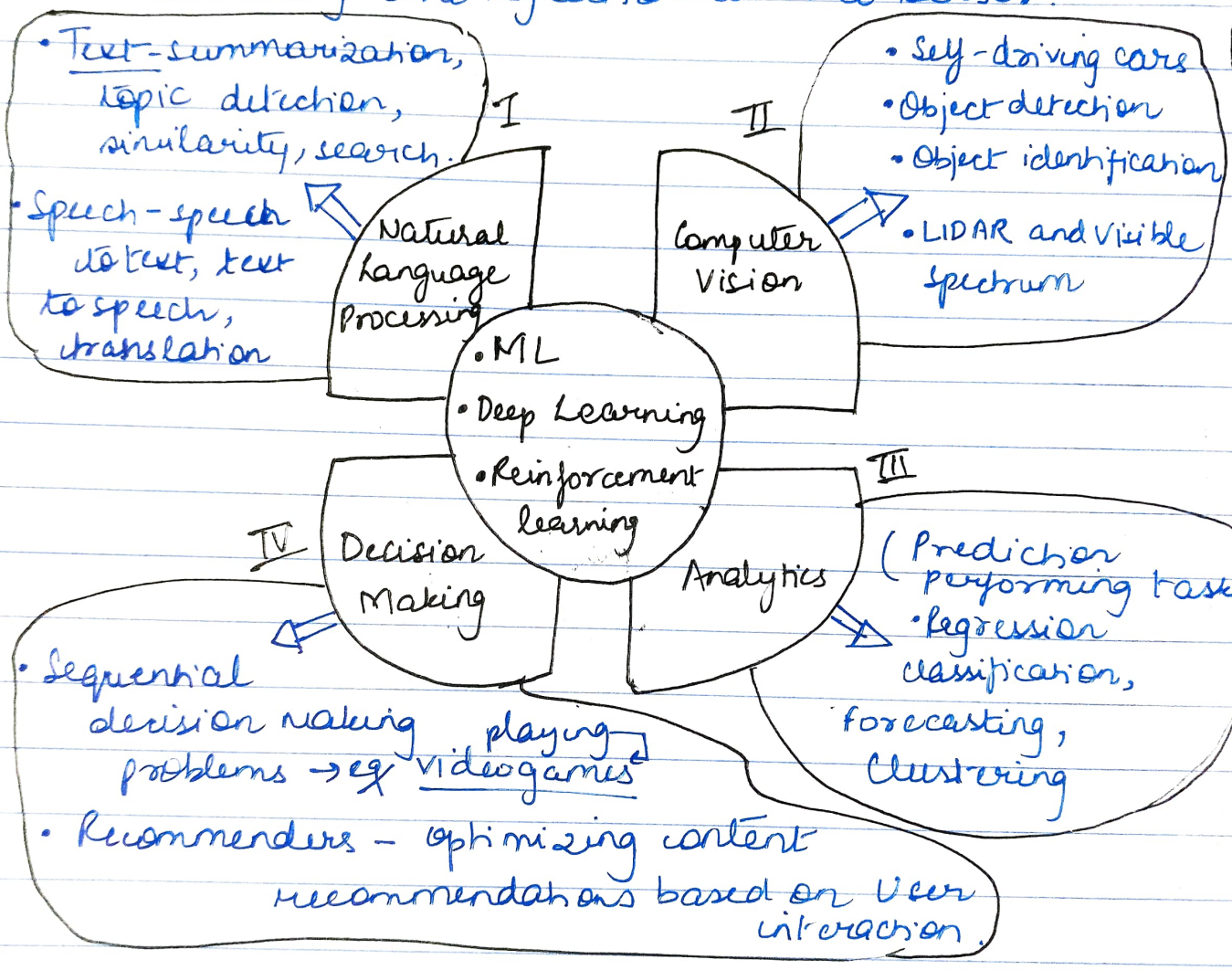
3. Applications of ML

Techniques used: Statistical machine learning,
deep learning,
Reinforcement learning

4. Applications of ML

* Object detection ⇒ describing the contents of an image.

* LIDAR - a method of measuring distances by illuminating the target with laser light and measuring the reflection with a sensor.



Examples of ML

- Automating the recognition of disease
- Recommend next best actions for individual care plans : (// EMR & EHR system - data digitalization)

EMR - Electronic medical record - digital chart

EHR - Electronic Health record - more holistic, long-term view of patients' health.

eg (IBM Watson Oncology)

- Enabling personalized, real-time banking experiences with chatbots. – (1st wave of customer contact) For I

(* IVR – Interactive voice response)

- Identify the next-best action for customer → recommendations eg sentiment analysis
- Capture, prioritize & route service requests to the correct employee to improve response times.

Terms:

- AI – A broad term that refers to computers thinking more like humans.
- ML – A subcategory of AI that involves learning from data without being explicitly programmed.
- Deep Learning – A subcategory of ML that uses a layered neural-network architecture originally inspired by the human brain.

// DL – has a "probability vector". – highly educated guess.

// "training" is required.

Hierarchy –