

Intelligent Traffic System by Machine Learning



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Outsourcing solution for Tech Startup



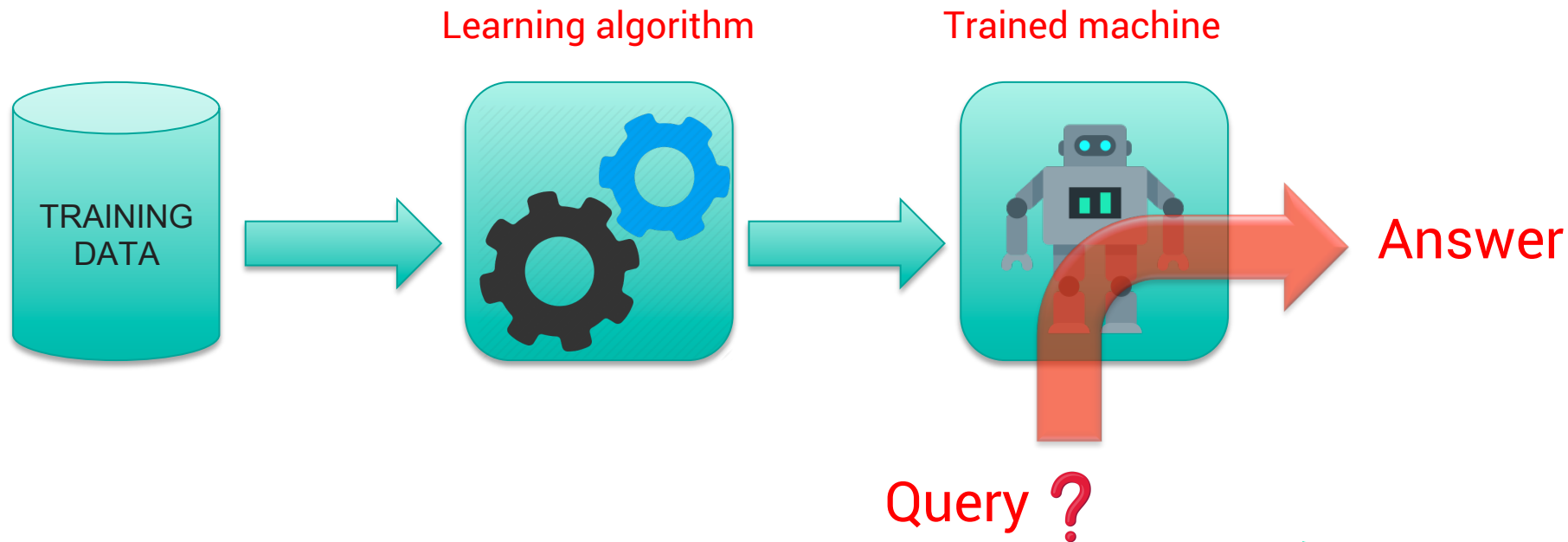
1. Machine Learning

2. Case study

3. Demo

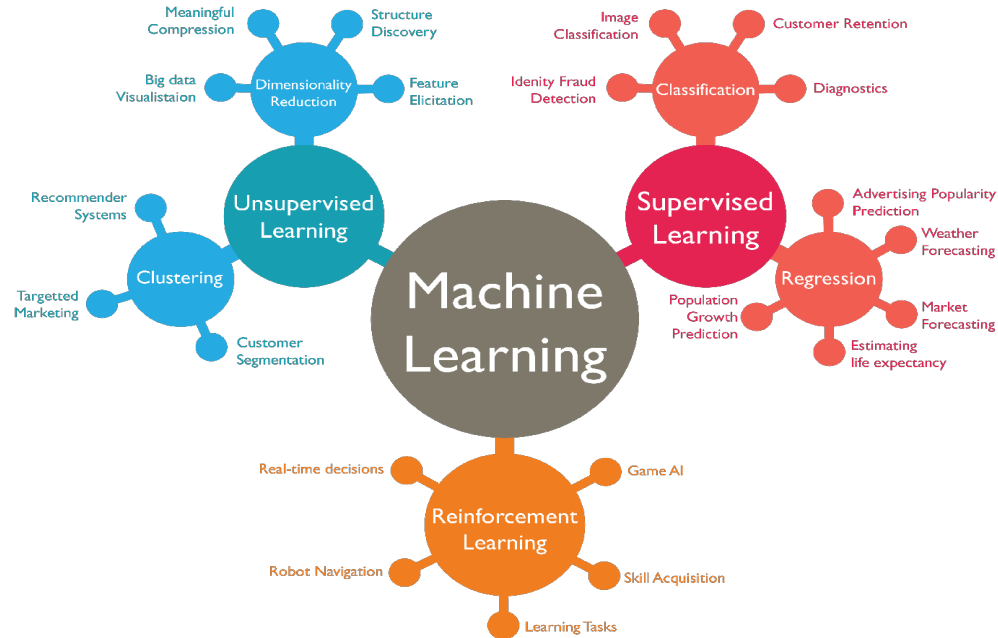


What is Machine Learning?





Type of machine learning algorithm





Application of machine learning in ITS

- Lane detection
- Vehicle detection and recognition
- Obstacle detection
- Traffic sign detection and recognition
- Traffic jam detection
- Vehicular traffic violation detection



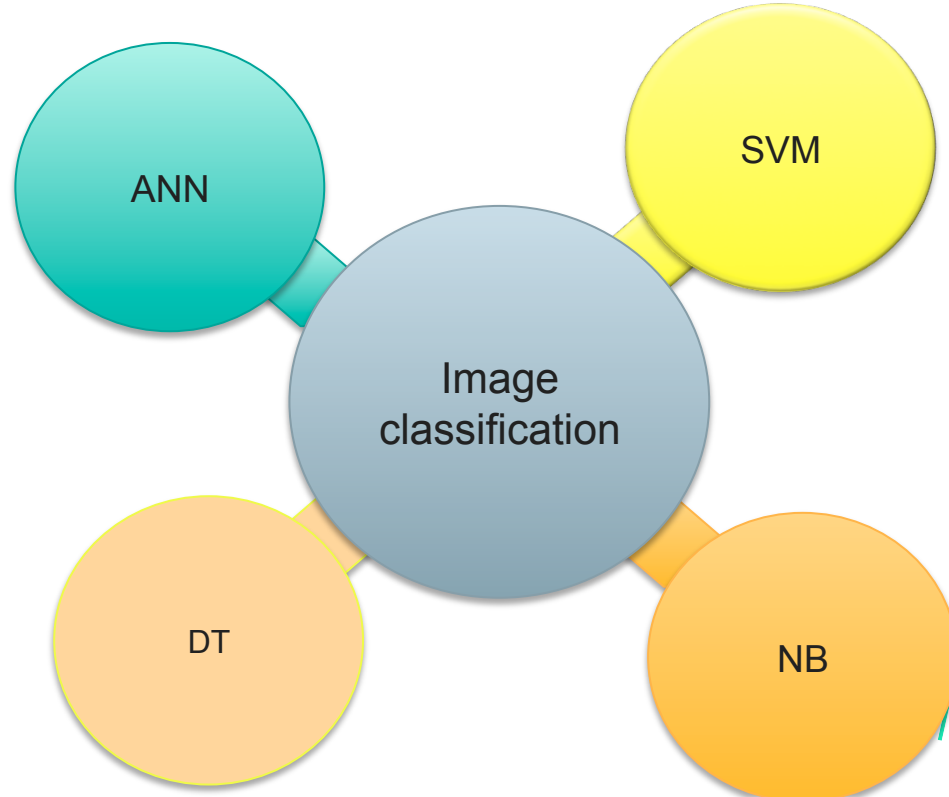
Machine learning for image analysis

SVM: Support vector machines

ANN: Artificial neural networks

DT: Decision tree

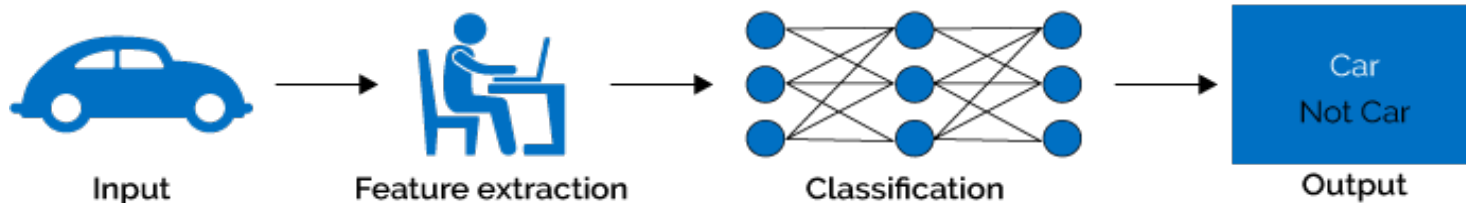
NB: Naïve Bayes



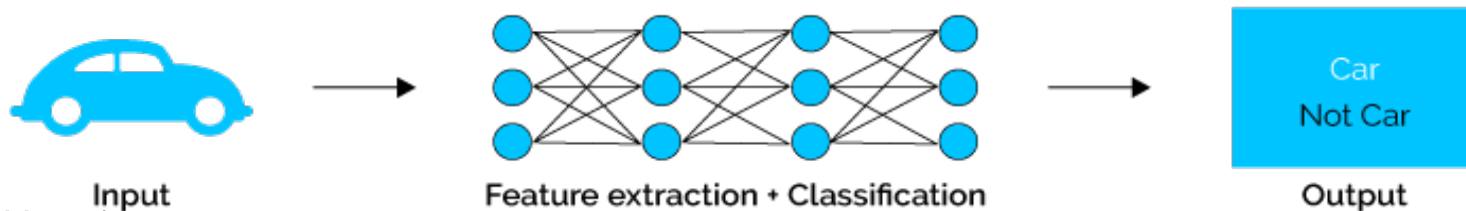


Deep learning vs Traditional ML

Machine Learning



Deep Learning



1. Machine Learning

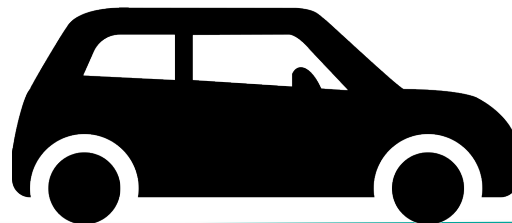
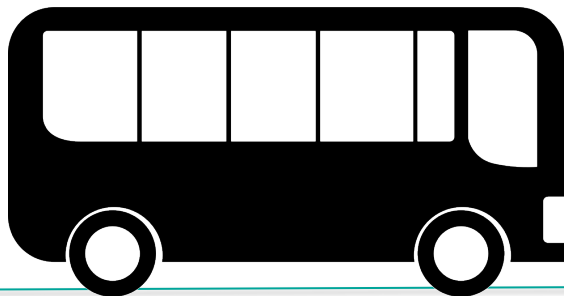
2. Case study

3. Demo



Case study: Vehicle classification

What kind of vehicle
are they?





Case study: Vehicle classification

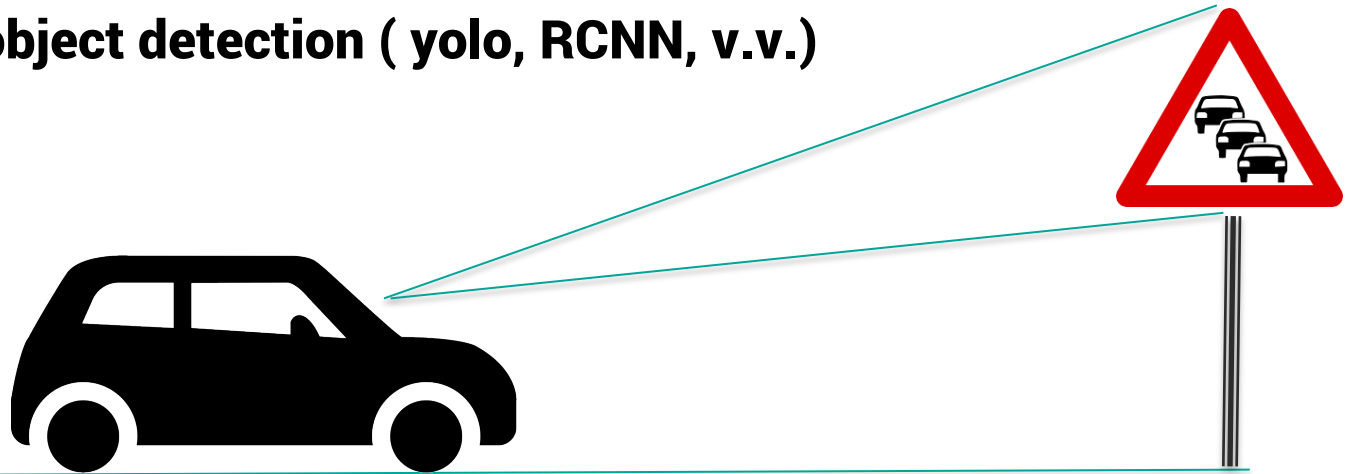
How to solve ?

- Traditional approach :
 - + Moving object detection
 - + Object extraction
 - + Object classification
- Deep learning approach:
 - + Multi-class object detection (yolo, RCNN, v.v.)



Case study: Traffic sign recognition

Multi-class object detection (yolo, RCNN, v.v.)





Case study: Vehicular traffic violation detection

- Wrong way detection
- Red-light violation detection
- Wrong lane detection
- Over speed violation detection
- License plate recognition

1. Machine Learning

2. Case study

3. Demo



Demo

Thank You!

We are:

OICSoft

Outsourcing solution for Tech startup ^^

<http://oicsoft.com>