



Machine Learning Influences In Technology And Society

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Abstract

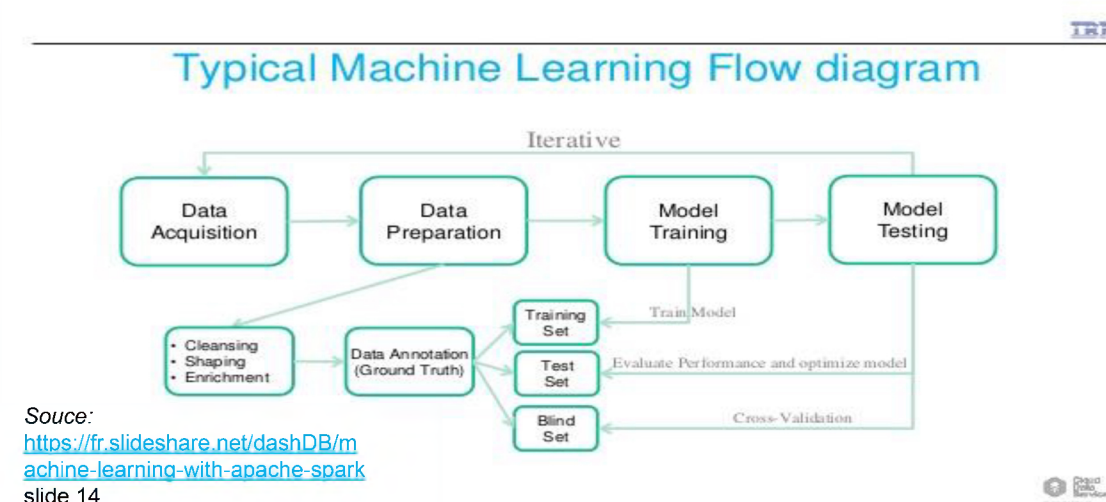
Technology and remote access to the internet help improve many parts of life. One exciting technology application is machine learning. This research examines the use of a form of artificial intelligence, known as machine learning, to examine a photo and make a determination of the type of car in an image. The goal of this research is to field this software as a mobile application allowing a user to capture an image of a car and upload it. The software will then return the make, model, and year range of a vehicle. The first step of this process will be the development of image classification software for a desktop or server platform. Later, this process could be ported to a mobile platform. The purpose of this research is to facilitate a greater understanding of the applications of image processing and machine learning for undergraduate students. The focus of this research is learning how to implement the openCV library.

What Is Machine Learning?

- Machine Learning is a method used to explicitly program software to learn from data and recognize patterns within that data. There are two categories of machine learning algorithms, supervised and unsupervised. Supervised machine learning algorithms learn from data and apply what has been learned to new data. Unsupervised machine learning takes data and makes inferences from the dataset.

How It Works

Machine learning systems are made up of four key components, data acquisition, data preparation, model training, and model testing.

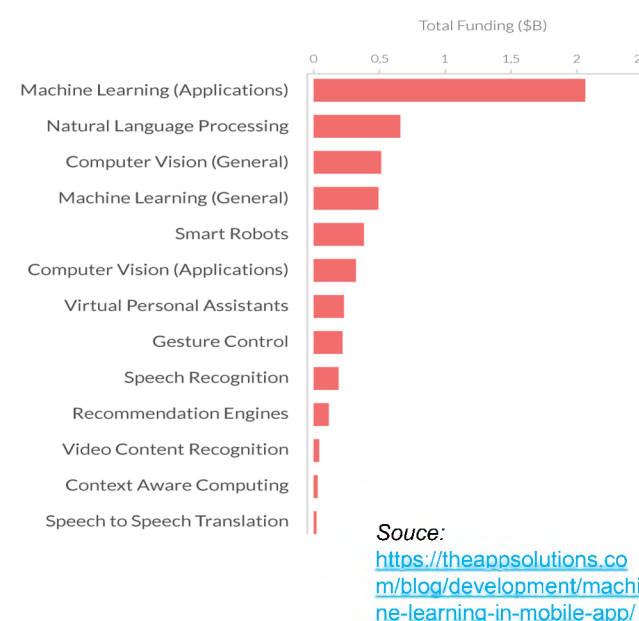


Machine Learning Process

The first step to building a machine learning system is making a model. The model is formed from the dataset which contains the initial input that the system will learn from. The data is used to train the model and inferences are made based on the dataset. Once the system has been trained the output results are compared to our initial model, and this process is repeated as many times as needed.

The Growth Of Machine Learning

FUNDING BY ARTIFICIAL INTELLIGENCE CATEGORY



Machine Learning has been a fast growing trend in the last few years with companies like Google, Netflix, and Amazon implementing machine learning techniques into their software.

Applications

- Web Searches
- Finance
- Information Extraction
- Social Media
- Robotics
- Space Exploration

Real life applications

Some real life applications of machine learning:

- Recommender systems – suggesting similar people on Facebook/LinkedIn, similar movies/ books etc. on Amazon,
- Business applications – Customer segmentation, Customer retention, Targeted Marketing etc.
- Medical applications – Disease diagnosis,
- Banking – Credit card issue, fraud detection etc.
- Language translation, text to speech or vice versa.

Source: <https://www.slideshare.net/machinepulse/machine-learning-and-realworld-applications> slide 17

Works Cited

- Sullivan, D. (2015, November 04). How Machine Learning Works, As Explained By Google. Retrieved March 02, 2017, from <https://martechtoday.com/how-machine-learning-works-150366>
- Machine Learning: What it is and why it matters. (n.d.). Retrieved March 02, 2017, from https://www.sas.com/en_us/insights/analytics/machine-learning.html#