YouTube Video Content Analysis and Summarization Automation

A PROJECT REPORT

Submitted by

BL.EN.U4CSE17523 T V Premchand

BL.EN.U4CSE17524 Y V Sravan Kumar Reddy

BL.EN.U4CSE17551 T Yeswanth Sai

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE ENGINEERING

AMRITA SCHOOL OF ENGINEERING, BANGALORE

AMRITA VISHWA VIDYAPEETHAM

BANGALORE 560 035

DEC-2020

DEC 2020

AMRITA VISHWA VIDYAPEETHAM

AMRITA SCHOOL OF ENGINEERING, BANGALORE, 560035

BONAFIDE CERTIFICATE

This is to certify that the project report entitled **"YouTube Video Content Analysis and Summarization Automation"** submitted by -

BL.EN.U4CSE17523	T V Premchand
BL.EN.U4CSE17524	Y V Sravan Kumar Reddy
BL.EN.U4CSE17551	T Yeswanth Sai

In partial fulfillment of the requirements for the award of the **Degree Bachelor of Technology** in "**COMPUTER SCIENCE ENGINEERING** "is a bonafide record of the work carried out under my guidance and supervision at Amrita School of Engineering, Bangalore.

Ms. Sasikala T.	Dr. Sriram Devanathan
Assistant Professor(Sr. Gr.),	Chairperson,
Computer Science and Engineering	Computer Science and Engineering

This project report was evaluated by us on …….

EXAMINER1 EXAMINER2

ACKNOWLEDGEMENT

The satisfaction that accompanies successful completion of any task would be incomplete without mention of people whom made it possible, and whose constant encouragement and guidance have been source of inspiration throughout the course of this project work.

We offer our sincere pranams at the lotus feet of **"AMMA", MATA AMRITANANDAMAYI DEVI** who showered her blessing upon us throughout the course of this project work.

We owe our gratitude to **Br. Viswamrita Chaitanya Swamiji**, Director, Amrita School of Engineering, Bangalore.

We thank **Dr. Sriram Devanathan**, Principal, Amrita School of Engineering, Bangalore for his support and inspiration.

It is a great pleasure to express our gratitude and indebtedness to our project guide **Ms. Sasikala T.** Assistant Professor, Department of Computer Science and Engineering, Amrita School of Engineering, Bangalore for her valuable guidance, encouragement, moral support and affection throughout the project work.

We express our Heartfelt thanks to **Dr. Sriram Devanathan,** Chairperson, Department of Computer Science and Engineering, Amrita School of Engineering, Bangalore for his encouragement and support during the course of work.

We would like to thank express our gratitude to project panel members for their suggestions, encouragement and moral support during the process of project work. Finally, we are forever grateful to our parents, who have loved, supported and encouraged us in all our endeavors.

ABSTRACT

A software program will take the YouTube video link of the user's choice as input. And there are two types of content we are going to extract as; one is the summarized text content from the video using Natural Language Processing, and the second form of content is details of the YouTube video like; the name of the video, views count, the category under which the video had shared, etc. using web scraping process. This allows the user to save his time and improve efficiency in information extraction from an unstructured data source.

A system that will take the YouTube video link of the user's choice as input. And there are two types of content we are going to extract as; one is the summarized text content from the video using Natural Language Processing, and the second form of content is details of the YouTube video like; the name of the video, views count, the category under which the video had shared, etc. using web scraping process. This allows the user to save his time and improve efficiency in information extraction from an unstructured data source.

TABLE OF CONTENTS

Page no

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1 – INTRODUCTION

1.1 INTRODUCTION TO WEB SCRAPING

Web scraping, some websites can contain a very large amount of invaluable data stock prices, product details, sports stats, you name it if you wanted to access this information. You either have to use whatever format the website uses or copy and paste the information manually into a new document. This can be tedious when you want to extract a lot of information from a website. Here's where web scraping can help. So, what is web scraping web scraping simply refers to the extraction of data from a website. This information is collected and then export into a format that is more useful to the user. For example, you can use web scraping to export a list of product names and prices from Amazon onto an Excel spreadsheet, while, though web scraping can be done manually in most cases, software tools that run on your computer are preferred when scraping as they can be less Expensive and work at a faster rate, but in most cases web scraping is not a simple task. Nowadays, websites come in many shapes and forms and, as a result, web scrapers can vary in functionality and features.

First, a web scraper will be given one or more URLs to load before scraping the scraper then loads. The entire HTML code for the page in question, more advanced scrapers will render the entire website, including CSS and JavaScript elements. Then the scraper will either extract all the data on the page or specific data selected by the user before the project is run. Ideally, the user will go through the process of selecting the specific data they want from the page. For example, you might want to scrape an Amazon product page for prices and models, but are not necessarily interested in product reviews. Lastly, the web scraper will output the data that has been collected into a format that is more useful to the user.

1.2 INTRODUCTION TO SENTENCE RANKING ALGORITHM

To summarize the text in to a multi-point or single-point summary, one of the finest methods is sentence ranking algorithm. It is the derivative of Google's page rank algorithm, the best ranking algorithm. It was designed to evaluate the quality and quantity of links to a page, along with other factors, the score determined, page's positions in search engine rankings. To illustrate this concept, it helps to think of google interpreting links as votes page rank is calculated based on a mathematical formula, which the original google paper. To simplify this formula, we could say: Google considers the quantity of inbound and outbound links in the page rank of each linking page. Essentially, the number of points also called link juice that a page can pass depends on its own total page rank well-maintained. So the number of points you can pass will remain lower.

1.3 MOTIVATION

YouTube, one of the most significant online video sharing and streaming applications. We spend some noticeable amount of our time watching YouTube videos every single day, be it for education, sports, entertainment, or exploring our interests. Moreover, we know that we are watching it for information. We want to develop a software program that automates the process of information extraction from a video and of the video.

1.4 PROBLEM DEFINITION

To develop a software program that will allow the user to save his/her time and improve the efficiency in information extraction and analyzing the unstructured data sources.

Unstructured Data Source: YouTube Videos.

1.5 OBJECTIVE

The main objectives of the project are as follows:

a) To extract most from an unstructured date source: YouTube Videos

b) Prepare a well-structured data for further analysis

c) Extract the text from the audio connected video

d) Provide a detailed abstract/summary for the content extracted from the video source

CHAPTER 2 – LITERATURE SURVEY

2.1 RESEARCH PAPER – I

Title: Comments Scraping Application for Review YouTube Content

Authors: Viny Christinti M., Walda, Tri Sutrisno

Description: In this research they have built a scraping application to obtain comment data on YouTube. YouTube also consists of existing structures in HTML, we can see comments that are visible on the web. But when the source is seen in the form of HTML structure so they have created that application that only takes comments without taking other data that is not needed. They did validation for this comment collected by them for data mining and further analysis. To get most out of the YouTube Videos (Unstructured Data Source), we started collecting more content in detail about the YouTube Video.

2.2 RESEARCH PAPER - II

Title: An Overview on Web Scraping Techniques Ans Tools

Authors: Anand V. Saurkar, Kedar G. Pathare, Shweta A. Gode.

Description: In this research they've used several Web Scraping software tools like Mozenda, Visual web ripper, web content extractor, imort.io, scrapy, etc. which were very simple but with limited data mining extension for facilizing online extraction of data for researcher in the format of spreadsheets. BeautifulSoup is one of the Python libraries where we can use HTML Parsing technique and use the markup data as user needs. Scrapy gives a result in the form of spreadsheet for a website which we select for scraping.

2.3 RESEARCH PAPER - III

Title: Web Information Retrieval Using Python and BeautifulSoup

Authors: Pratiksha Ashiwal, S. R. Tandan, Priyanka Tripathi, Rohit Miri

Description: In this research paper they used Python programming language and BeautifulSoup for extracting the web information. They have directly parsed the HTML page using the scrapers built based on BeautifulSoup and Python which results in missing some dynamic data for the target information from the HTML data in the domain. To make the scraper work more efficiently, downloading the scraped markup language text in to local file and then parsing it for data pre-processing is the better idea.

2.4 RESEARCH PAPER - IV

Title: Automatic Text Summarization Using Natural Language Processing

Authors: Pratibha Devihosur, Naseer R

Description: In this research paper they've built an unsupervised learning system. The process for summarizing the text includes four main steps as data input, data pre-processing, using Lesk's algorithm, and generating summary. Along with this they've used the wordnet as an online semantic lexicon. The disadvantages of using this method is disambiguating a sentence which have multiple ambiguous words in the same sentence and for disambiguating the sense of the word they are not disambiguating the other context words.

2.5 RESEARCH PAPER - V

Title: Text Summarization using Sentence Scoring Method

Authors: T. Sri Rama Raju, Bhargav Allarpu

Description: In this research they've used sentenced scoring method which involves pre-processing, word frequencies and sentence ranking. The user can specifically choose how many summary points can be taken from the whole context. The process involves tokenization, stemming, frequencies of words, etc. To improve efficiency in pre-processing we additionally used lemmatization which will reduce the task of finding frequencies of every word in the text collection.

CHAPTER 3- REQUIREMENTS AND ANALYSIS

3.1 SOFTWARE REQUIREMENTS

The software requirements and versions that are suitable to perform the "YouTube video content analysis and summarization automation" are listed in the below given Table 3.1.1.

S. No.	Name	Specification
1	Operating system	Windows 8.1 or higher
2	OS settings	TCP/IP protocol installed
3	Network settings	TCP – port 80 open (http traffic) TCP – port 443 open (http traffic) TCP – port 8891 open (http traffic)
4	Python	3.6 or higher
5	Chrome browser	86 or higher
6	Chrome Web driver	86.0.4240.22 or higher (Similar to Chromium version)
7	Web services	Windows .NET Framework 4.0

Table 3.1.1

3.2 HARDWARE REQUIREMENTS

The hardware requirements that are suitable to perform the "YouTube video content analysis and summarization automation" are listed in table as shown in below Table 3.2.1.

S. No.	Component	Specification
1	Memory (RAM)	>= 4GB
2	HDD/SSD	>= 20GB Free space
3	Processor	Intel® Core 2 Duo (1.6 GHz) or equivalent
4	Display	1024 X 768 pixels or higher resolution monitor
5	Input device	Keyboard and mouse or compatible pointing device
6	Internet connection	Network using 16 Mbps or higher speed network adapter or WLAN

Table 3.2.1

3.3 ANALYSIS

In this Modern Society there are many technologies which are bringing up new innovations that are helpful for the personal growth and digital society's growth. Humans having irregularities and facing Pathetic issues sometimes need expertise solutions for the problems in order to survive. For the people who are having senses disorder it is unable to do some tasks which are related to the usage of modern innovations. Some creative ideas which can help us get rid of such issues can easily bring a change in modern society. A system that will take the YouTube video link of the user's choice as input and provides the efficient and useful context from the whole video in the form of text which can be helpful in gaining the knowledge in other efficient ways. And there are two types of content that are going to extract as; one is the summarized text content from the video using Natural Language Processing by understanding the speech and efficiently converting them into the text format, and the second form of content is, the details of the YouTube video like; the name of the video i.e., who published the video.

The number of views the video got, the category under which the video had shared, etc. using web scraping process. This allows the user to save his time and improve efficiency in information extraction from an unstructured data source and it is also helpful for the abnormal people who are unable to get the information or the content from the YouTube video.

CHAPTER 4 – DESIGN

4.1 FRAME WORK ARCHITECTURE

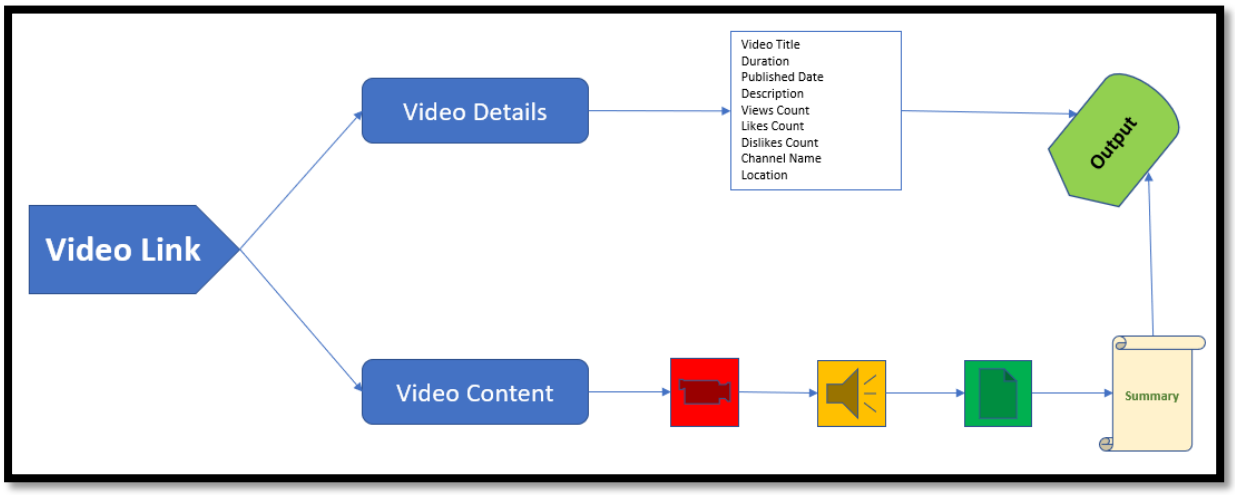


Fig 4.1.1 – frame work architecture

As shown in above figure Fig 4.1.1. The input video link which is provided by the user will be accessed and the video will be downloaded and we will be using sentence ranking algorithm to converting the Speech in the video to the text which is like the google page rank algorithm. The contents to be extracted in the video will be in two streams.

- The context in the video
- The details of the video

The context extraction part takes the Natural Language Processing part which checks over the word sense disambiguation and gives the efficient text format of the speech in the video and then we will be doing abstractive text summarization in order to provide the brief information about the video.

In the Other part we will be using web scarping techniques which can be able to extract the body of the HTML part of the link of YouTube video and provides the user the complete details about the video and its title, views count Channel on which it is published etc. which can help the user to get an idea about the organizer information.

CHAPTER 5 – IMPLEMENTATION

5.1 IMPLEMENTATION STEPS

The implementation includes the following steps:

1. The system takes YouTube video link as input from the user.
2. From the input taken we have two levels of details to be extracted:
    a. Video details
    b. Video content
3. Video details includes the details of YouTube video like video title, description, etc.
4. Video content includes the content present in the YouTube video.
5. After extracting the video content as text, we will summarize the text and add it to the output already contained i.e., video details.

5.2 METHODOLOGY

In this whole implementation process, we will use some of the major techniques and algorithms given below.

- Web Scraping
- Word Sense Disambiguation
- Sentence Ranking Algorithm (Reference from Google's Page Rank Algorithm)
- Speech Recognition
- Speech to text conversion

CHAPTER 6 – RESULTS

The results after executing the program source code with desired input YouTube video URL will be stored under a structured format file named as document with ".docx" extension. Some of the sample results are given as below.

6.1 SAMPLE RESULT – 1

Input (YouTube Video URL): https://www.youtube.com/watch?v=ukzFI9rgwfU

Output (Text):

YouTube video details:

Video Name : Machine Learning Basics | What Is Machine Learning? | Introduction To Machine Learning | Simplilearn

Video Duration : 7:52

Published Date : Sep 19, 2018

Views Count : 1592934

Likes Count : 21K

Dislikes Count : 777

Channel Name : Simplilearn

Tags : #MachineLearning #WhatIsMachineLearning #MachineLearningTutorial

Description :-

🔥Simplilearn Machine Learning Course: https://bit.ly/SimplilearnMachineLear...

This Machine Learning basics video will help you understand what is Machine Learning, what are the types of Machine Learning - supervised, unsupervised & reinforcement learning, how Machine Learning works with simple examples, and will also explain how Machine Learning is being used in various industries. Machine learning is a core sub-area of artificial

intelligence; it enables computers to get into a mode of self-learning without being explicitly programmed. When exposed to new data, these computer programs are enabled to learn, grow, change, and develop by themselves. So, put simply, the iterative aspect of machine learning is the ability to adapt to new data independently. This is possible as programs learn from previous computations and use “pattern recognition” to produce reliable results.

Start learning today's most in-demand skills for FREE. Visit us at
https://www.simplilearn.com/skillup-f...
Choose over 300 in-demand skills and get access to 1000+ hours of video content for FREE in various technologies like Data Science, Cybersecurity, Project Management & Leadership, Digital Marketing, and much more.

Below topics are explained in this Machine Learning basics video:

1. What is Machine Learning? (00:21)

2. Types of Machine Learning (02:43)

2. What is Supervised Learning? (02:53)

3. What is Unsupervised Learning? (03:46)

4. What is Reinforcement Learning? (04:37)

5. Machine Learning applications (06:25)

Subscribe to our channel for more Machine Learning Tutorials:
https://www.youtube.com/user/Simplile...

Download the Machine Learning Career Guide to explore and step into the exciting world of Machine Learning, and follow the path towards your dream career- https://bit.ly/3eLuTUo

Watch more videos on Machine Learning: https://www.youtube.com/watch?v=7JhjI...

#MachineLearning #WhatIsMachineLearning #MachineLearningTutorial #MachineLearningBasics #MachineLearningTutorialForBeginners #Simplilearn

About Simplilearn Machine Learning course:

A form of artificial intelligence, Machine Learning is revolutionizing the world of computing as well as all people's digital interactions. Machine Learning powers such innovative automated technologies as recommendation engines, facial recognition, fraud protection and even self-driving cars. This Machine Learning course prepares engineers, data scientists and other professionals with the knowledge and hands-on skills required for certification and job competency in Machine Learning.

Why learn Machine Learning?

Machine Learning is taking over the world- and with that, there is a growing need among companies for professionals to know the ins and outs of Machine Learning

The Machine Learning market size is expected to grow from USD 1.03 Billion in 2016 to USD 8.81 Billion by 2022, at a Compound Annual Growth Rate (CAGR) of 44.1% during the forecast period.

What skills will you learn from this Machine Learning course?

By the end of this Machine Learning course, you will be able to:

1. Master the concepts of supervised, unsupervised and reinforcement learning concepts and modeling.

2. Gain practical mastery over principles, algorithms, and applications of Machine Learning through a hands-on approach which includes working on 28 projects and one capstone project.

3. Acquire a thorough knowledge of the mathematical and heuristic aspects of Machine Learning.

4. Understand the concepts and operation of support vector machines, kernel SVM, naive Bayes, decision tree classifier, random forest classifier, logistic regression, K-nearest neighbors, K-means clustering and more.

5. Be able to model a wide variety of robust Machine Learning algorithms including deep learning, clustering, and recommendation systems

We recommend this Machine Learning training course for the following professionals in particular:

1. Developers aspiring to be a data scientist or Machine Learning engineer

2. Information architects who want to gain expertise in Machine Learning algorithms

3. Analytics professionals who want to work in Machine Learning or artificial intelligence

4. Graduates looking to build a career in data science and Machine Learning

Learn more at: https://www.simplilearn.com/big-data-...

For more updates on courses and tips follow us on:

- Facebook: https://www.facebook.com/Simplilearn

- Twitter: https://twitter.com/simplilearn

- LinkedIn: https://www.linkedin.com/company/simp...

- Website: https://www.simplilearn.com

Get the Android app: http://bit.ly/1WlVo4u

Get the iOS app: http://apple.co/1HIO5J0

YouTube video text:

We know humans learn from their past experiences and machines follow instructions given by humans. But what if humans can Turing the machines to learn from the past data and to what humans can do act much faster? Well, that's called machine learning, but it's a lot more than just learning. It'S also about understanding and reasoning. So today we will learn about the basics of machine learning, so that's Paul. He loves listening to new songs. He either likes them or dislikes. That Paul decides this. On the basis of the songs, tempo, john er intensity and the gender of voice for simplicity, let's just use tempo and intensity for now. So here tempo is on the x-axis, ranging from relaxed to fast, whereas intensity is on the y-axis, ranging from light to soling. We see that Paul likes the song with fast tempo and soaring intensity, while he dislikes a song with relaxed tempo and light intensity. So now we choices. Let'S see Paul listens to a new song, let's name it: a song, a song; aha s, fast tempo and a soaring intensity. So it lies somewhere here. Looking at the data, can you guess where the ball will like the song or not correct, so Paul likes the song by looking at Paul's past choices, we were able to classify the unknown song very easily right. Let'S say now: Paul listens to a new song: let's label it as song Pete, so song B lies somewhere here with medium tempo and medium intensity, neither relaxed nor fast, neither light nor soaring. Now can you guess where the Paul likes it or not, notable to guess with this Paul will like it or dislike it. Other choice is unclear, correct. We could easily classify song a, but when the choice became complicated as in theca Se of song P. Yes and that's where machine learning comes in, let's see how, in the same example for song P, if wed raw a circle around the song B, we see that there are four words for like, whereas one would for dislike. If we go for the majority words, we can say will definitely like the song. That'S all

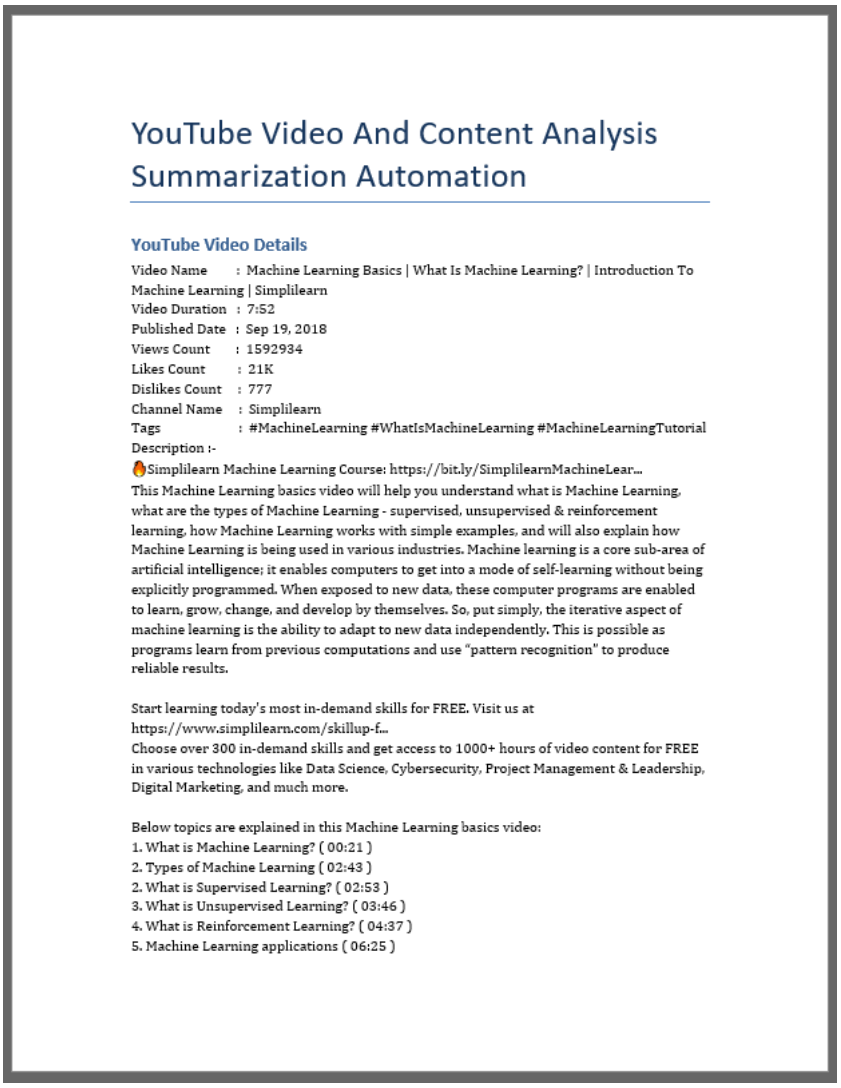
this was a basic machine learning algorithm. Also it's called Kn ear est neighbors. So this is just as mall example in one of the many machine learning. Algorithms, quite easy right believe me, it is, but what happens when the choices become complicated, as in theca Se of song P? That'S when machine learning comes in it learns. The data builds the prediction model and when the new data point comes in, it can easily project for it more. The data better them ode, l higher, will be the accuracy. There are many ways in which the machine learns. It could be either supervised, learning, unsupervised, learning or reinforcement learning. Let'S first quickly understand supervised learning. Suppose your friend gives you, 1 million coins of three different currencies, say one to be one euro and one there huh each coin has different weights. For example, a coin of one rupee weighs three grams: one euro weighs seven grams and one their own weighs four grams. Your model will predict the currency of the coin. Here, your weight becomes the feature of coins, while currency becomes the label. When you feed this data. To the machine learning model it learns which feature is associated with which slip. For example, it will learn that if a coin is of three grams, it will be a one rupee coin: let's give an you going to them. Ac hin e on the basis of the weight oft he new coin, your model will predict the currency, hence supervised. Learning uses labels data to train the model here, Th EM, ac, hin e knew the features of the object and also the labels associated with those features. On this note, let's move to unsupervised, learning and see the difference. Suppose you have cricket data set of various players with their respective scores and thickets taken when you feed this data set to them. Ac hin e. The machine identifies the pattern of player performance, so it plops this data with the respect iv. Ea chat, z on the x axis, while runs on the ya xis. While looking at the data, you will clearly see that there are two clusters: the one cluster are the players who scored high, runs and took less wickets, while the other cluster is of the players who scored less runs but took many wickets. So here we interpret these two clusters as batsman and bowlers. The important point to note here is that there were Nola bels of hence the learning with unlabeled

data is unsupervised learning, so we saw a supervised learning where the data was labeled and the unsupervised learning where the data was unlabeled and then there's reinforcement, learning, which is A reward based learning or we can say that it works on the principle of feedback. Here. Let'S say you provide the system with an image of a dog and ask it to identify it. The system identifies it as a cat, so you give a negative feedback to the Machine, saying that it's a dog's image, the machine will learn from the feedback and finally, if it comes across any other image of a dog, it will be able to classify it correctly. That is, reinforcement, learning to generalize machine learning model. Let'S see Af low chart input is given to a machine learning model which then gives the output according to the algorithm applied. If it's right, we take the output as a final result else. We provide feedback to the train model and ask it to predict until it learn SI hope, you've, understood, supervised and unsupervised learning. So let's have quiz. You have to determine whether the given scenarios use the supervised or unsupervised learning simple right: son ow, you want Facebook recognizes your friend in a picture from an album oft Ag. Ge d photographs scenario recommends new movies, based on someone's past movie choices. This 3 analyzing Bank data for suspicious transactions and flagging fraud transactions think wisely and comment below your answers. Moving on, don't you sometimes wonder how ism ac hin e learning possible in today's era? Well, that's because today we have humongous data available. Everybody is online either making a transaction or just surfing the internet and that's generating a huge amount of data every minute and that data. My friend is the key to analysis. Also, the memory handling capabilities of computers have largely increased, which helps them to process such a huge amount of data at hand without any delay. And yes, computers now have great computational powers. So there are a lot of applications of machine learning out thereto name. A few machine learning is used in healthcare where Diagnostics are predicted for doctors review. The sentiment analysis that the tech giants are doing on social media is another interesting application, machine learning, fraud, detection in the finance sector

and also to predict customer churn in the e-commerce sector. While booking the gap, you must have encountered surge pricing, often where it says the Farrow field. Trip has been updated, continue. Cooking. Yes, please I'm getting late for office. Well, that's an interesting machine learning model which is used by global taxi giant and others where they have differential pricing in real time based on demand. Then umber of cars, available bad weather, rush hour, etc. So they use the surge pricing model to ensure that those who need a cab can get one also, it uses predictive modeling to predict where the demand will be high, with the goal that drivers can take care of the demand and surge pricing can be minimized. Great, can you remind me to book a cab at 6 p. m. today remind you Thanks, comment below some interesting everyday examples around you where machines are learning and doing amazing jobs, so that's all form ac, hin e learning basics. Today, from mys it e keep watching the space for more interesting videos. Until then, happy learning.

YouTube Video Content Summary:

--> The important point to note here is that there were Nola bels of hence the learning with unlabeled data is unsupervised learning, so we saw a supervised learning where the data was labeled and the unsupervised learning where the data was unlabeled and then there's reinforcement, learning, which is A reward-based learning or we can say that it works on the principle of feedback.



YouTube Video And Content Analysis
Summarization Automation

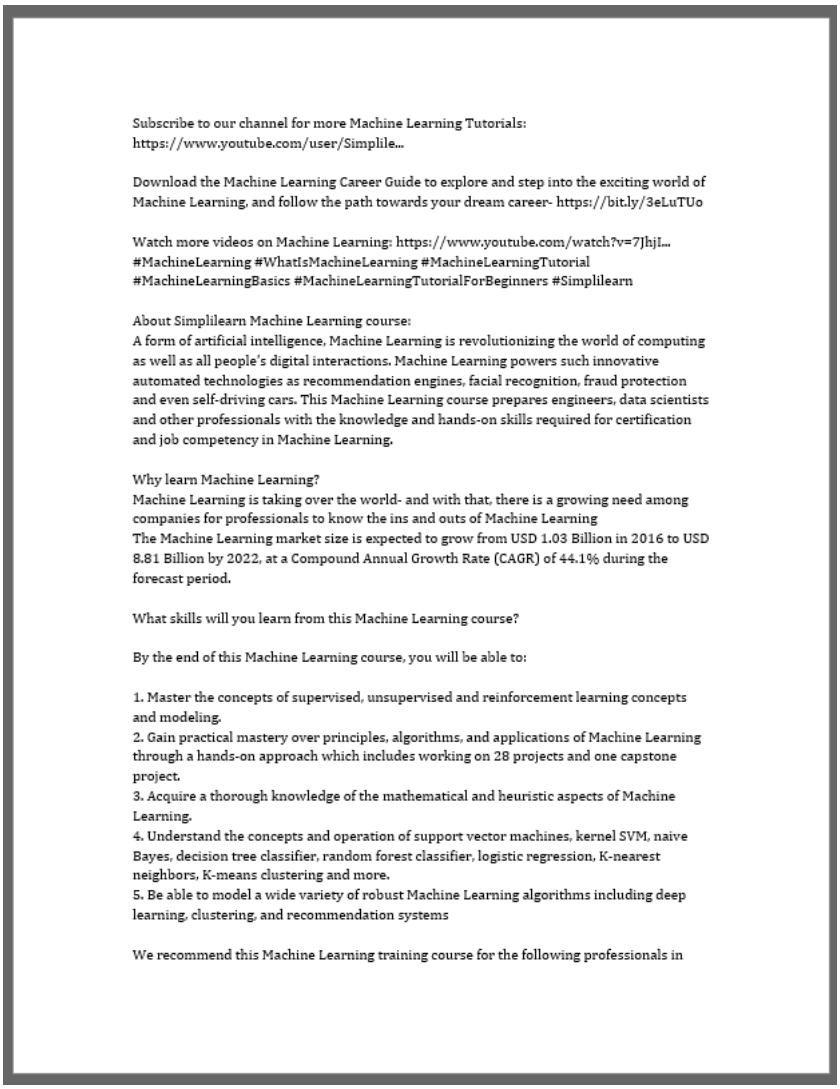
YouTube Video Details

Video Name : Machine Learning Basics | What Is Machine Learning? | Introduction To Machine Learning | Simplilearn
Video Duration : 7:52
Published Date : Sep 19, 2018
Views Count : 1592934
Likes Count : 21K
Dislikes Count : 777
Channel Name : Simplilearn
Tags : #MachineLearning #WhatIsMachineLearning #MachineLearningTutorial
Description :-
🔥Simplilearn Machine Learning Course: https://bit.ly/SimplilearnMachineLear...
This Machine Learning basics video will help you understand what is Machine Learning, what are the types of Machine Learning - supervised, unsupervised & reinforcement learning, how Machine Learning works with simple examples, and will also explain how Machine Learning is being used in various industries. Machine learning is a core sub-area of artificial intelligence; it enables computers to get into a mode of self-learning without being explicitly programmed. When exposed to new data, these computer programs are enabled to learn, grow, change, and develop by themselves. So, put simply, the iterative aspect of machine learning is the ability to adapt to new data independently. This is possible as programs learn from previous computations and use "pattern recognition" to produce reliable results.

Start learning today's most in-demand skills for FREE. Visit us at https://www.simplilearn.com/skillup-f...
Choose over 300 in-demand skills and get access to 1000+ hours of video content for FREE in various technologies like Data Science, Cybersecurity, Project Management & Leadership, Digital Marketing, and much more.

Below topics are explained in this Machine Learning basics video:
1. What is Machine Learning? (00:21)
2. Types of Machine Learning (02:43)
2. What is Supervised Learning? (02:53)
3. What is Unsupervised Learning? (03:46)
4. What is Reinforcement Learning? (04:37)
5. Machine Learning applications (06:25)

Fig 6.1.1 – sample result-1 (part-1)



Subscribe to our channel for more Machine Learning Tutorials:
https://www.youtube.com/user/Simplile...

Download the Machine Learning Career Guide to explore and step into the exciting world of Machine Learning, and follow the path towards your dream career- https://bit.ly/3eLuTUo

Watch more videos on Machine Learning: https://www.youtube.com/watch?v=7JhjI...
#MachineLearning #WhatIsMachineLearning #MachineLearningTutorial
#MachineLearningBasics #MachineLearningTutorialForBeginners #Simplilearn

About Simplilearn Machine Learning course:
A form of artificial intelligence, Machine Learning is revolutionizing the world of computing as well as all people's digital interactions. Machine Learning powers such innovative automated technologies as recommendation engines, facial recognition, fraud protection and even self-driving cars. This Machine Learning course prepares engineers, data scientists and other professionals with the knowledge and hands-on skills required for certification and job competency in Machine Learning.

Why learn Machine Learning?
Machine Learning is taking over the world- and with that, there is a growing need among companies for professionals to know the ins and outs of Machine Learning
The Machine Learning market size is expected to grow from USD 1.03 Billion in 2016 to USD 8.81 Billion by 2022, at a Compound Annual Growth Rate (CAGR) of 44.1% during the forecast period.

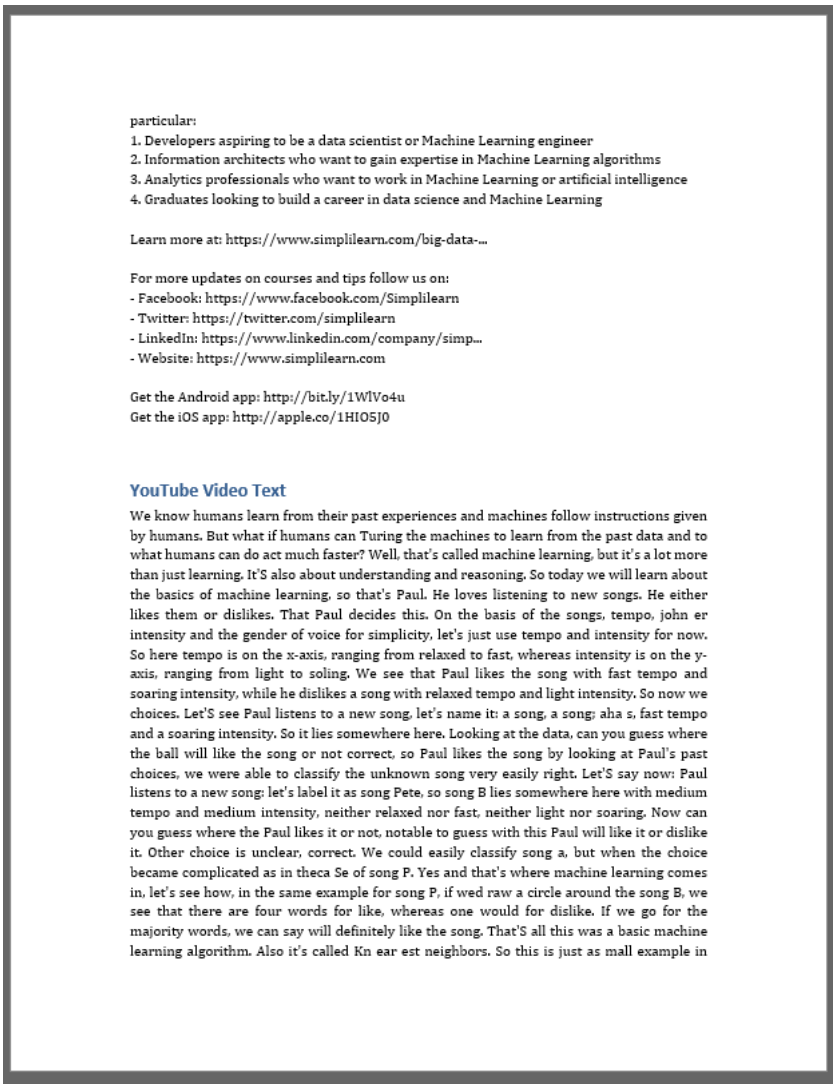
What skills will you learn from this Machine Learning course?

By the end of this Machine Learning course, you will be able to:

1. Master the concepts of supervised, unsupervised and reinforcement learning concepts and modeling.
2. Gain practical mastery over principles, algorithms, and applications of Machine Learning through a hands-on approach which includes working on 28 projects and one capstone project.
3. Acquire a thorough knowledge of the mathematical and heuristic aspects of Machine Learning.
4. Understand the concepts and operation of support vector machines, kernel SVM, naive Bayes, decision tree classifier, random forest classifier, logistic regression, K-nearest neighbors, K-means clustering and more.
5. Be able to model a wide variety of robust Machine Learning algorithms including deep learning, clustering, and recommendation systems

We recommend this Machine Learning training course for the following professionals in

Fig 6.1.2 – sample result-1 (part-2)



particular:
1. Developers aspiring to be a data scientist or Machine Learning engineer
2. Information architects who want to gain expertise in Machine Learning algorithms
3. Analytics professionals who want to work in Machine Learning or artificial intelligence
4. Graduates looking to build a career in data science and Machine Learning

Learn more at: https://www.simplilearn.com/big-data-...

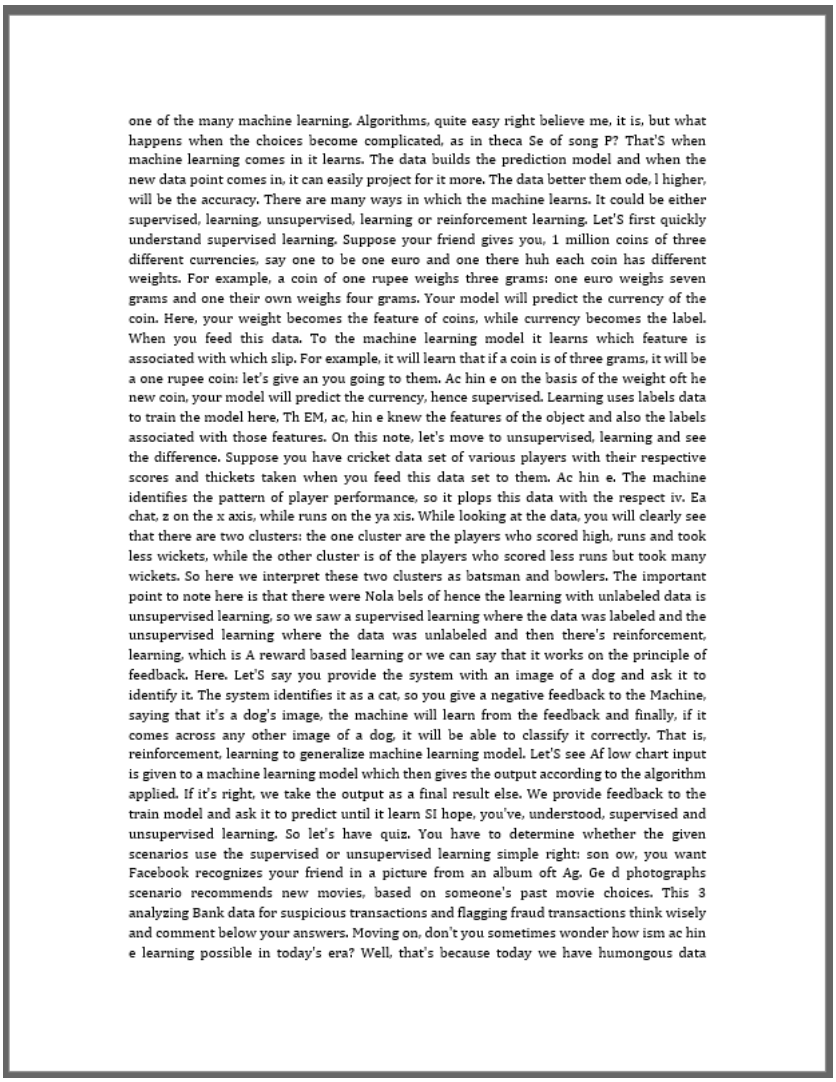
For more updates on courses and tips follow us on:
- Facebook: https://www.facebook.com/Simplilearn
- Twitter: https://twitter.com/simplilearn
- LinkedIn: https://www.linkedin.com/company/simp...
- Website: https://www.simplilearn.com

Get the Android app: http://bit.ly/1WlVo4u
Get the iOS app: http://apple.co/1HIO5J0

YouTube Video Text

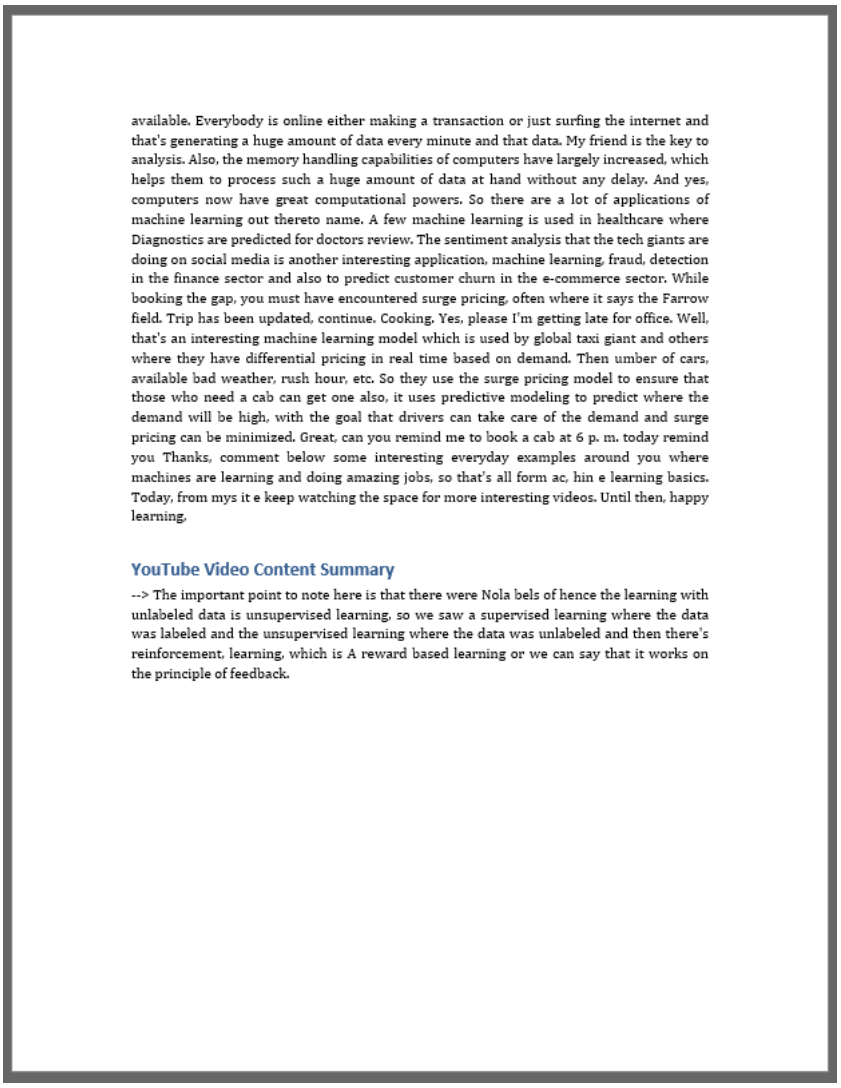
We know humans learn from their past experiences and machines follow instructions given by humans. But what if humans can Turing the machines to learn from the past data and to what humans can do act much faster? Well, that's called machine learning, but it's a lot more than just learning. It'S also about understanding and reasoning. So today we will learn about the basics of machine learning, so that's Paul. He loves listening to new songs. He either likes them or dislikes. That Paul decides this. On the basis of the songs, tempo, john er intensity and the gender of voice for simplicity, let's just use tempo and intensity for now. So here tempo is on the x-axis, ranging from relaxed to fast, whereas intensity is on the y-axis, ranging from light to soling. We see that Paul likes the song with fast tempo and soaring intensity, while he dislikes a song with relaxed tempo and light intensity. So now we choices. Let'S see Paul listens to a new song, let's name it: a song, a song; aha s, fast tempo and a soaring intensity. So it lies somewhere here. Looking at the data, can you guess where the ball will like the song or not correct, so Paul likes the song by looking at Paul's past choices, we were able to classify the unknown song very easily right. Let'S say now: Paul listens to a new song: let's label it as song Pete, so song B lies somewhere here with medium tempo and medium intensity, neither relaxed nor fast, neither light nor soaring. Now can you guess where the Paul likes it or not, notable to guess with this Paul will like it or dislike it. Other choice is unclear, correct. We could easily classify song a, but when the choice became complicated as in theca Se of song P. Yes and that's where machine learning comes in, let's see how, in the same example for song P, if wed raw a circle around the song B, we see that there are four words for like, whereas one would for dislike. If we go for the majority words, we can say will definitely like the song. That'S all this was a basic machine learning algorithm. Also it's called Kn ear est neighbors. So this is just as mall example in

Fig 6.1.3 – sample result-1 (part-3)



one of the many machine learning. Algorithms, quite easy right believe me, it is, but what happens when the choices become complicated, as in theca Se of song P? That'S when machine learning comes in it learns. The data builds the prediction model and when the new data point comes in, it can easily project for it more. The data better them ode, l higher, will be the accuracy. There are many ways in which the machine learns. It could be either supervised, learning, unsupervised, learning or reinforcement learning. Let'S first quickly understand supervised learning. Suppose your friend gives you, 1 million coins of three different currencies, say one to be one euro and one there huh each coin has different weights. For example, a coin of one rupee weighs three grams: one euro weighs seven grams and one their own weighs four grams. Your model will predict the currency of the coin. Here, your weight becomes the feature of coins, while currency becomes the label. When you feed this data. To the machine learning model it learns which feature is associated with which slip. For example, it will learn that if a coin is of three grams, it will be a one rupee coin: let's give an you going to them. Ac hin e on the basis of the weight oft he new coin, your model will predict the currency, hence supervised. Learning uses labels data to train the model here, Th EM, ac, hin e knew the features of the object and also the labels associated with those features. On this note, let's move to unsupervised, learning and see the difference. Suppose you have cricket data set of various players with their respective scores and thickets taken when you feed this data set to them. Ac hin e. The machine identifies the pattern of player performance, so it plops this data with the respect iv. Ea chat, z on the x axis, while runs on the ya xis. While looking at the data, you will clearly see that there are two clusters: the one cluster are the players who scored high, runs and took less wickets, while the other cluster is of the players who scored less runs but took many wickets. So here we interpret these two clusters as batsman and bowlers. The important point to note here is that there were Nola bels of hence the learning with unlabeled data is unsupervised learning, so we saw a supervised learning where the data was labeled and the unsupervised learning where the data was unlabeled and then there's reinforcement, learning, which is A reward based learning or we can say that it works on the principle of feedback. Here. Let'S say you provide the system with an image of a dog and ask it to identify it. The system identifies it as a cat, so you give a negative feedback to the Machine, saying that it's a dog's image, the machine will learn from the feedback and finally, if it comes across any other image of a dog, it will be able to classify it correctly. That is, reinforcement, learning to generalize machine learning model. Let'S see Af low chart input is given to a machine learning model which then gives the output according to the algorithm applied. If it's right, we take the output as a final result else. We provide feedback to the train model and ask it to predict until it learn SI hope, you've, understood, supervised and unsupervised learning. So let's have quiz. You have to determine whether the given scenarios use the supervised or unsupervised learning simple right: son ow, you want Facebook recognizes your friend in a picture from an album oft Ag. Ge d photographs scenario recommends new movies, based on someone's past movie choices. This 3 analyzing Bank data for suspicious transactions and flagging fraud transactions think wisely and comment below your answers. Moving on, don't you sometimes wonder how ism ac hin e learning possible in today's era? Well, that's because today we have humongous data

Fig 6.1.4 – sample result-1 (part-4)



available. Everybody is online either making a transaction or just surfing the internet and that's generating a huge amount of data every minute and that data. My friend is the key to analysis. Also, the memory handling capabilities of computers have largely increased, which helps them to process such a huge amount of data at hand without any delay. And yes, computers now have great computational powers. So there are a lot of applications of machine learning out thereto name. A few machine learning is used in healthcare where Diagnostics are predicted for doctors review. The sentiment analysis that the tech giants are doing on social media is another interesting application, machine learning, fraud, detection in the finance sector and also to predict customer churn in the e-commerce sector. While booking the gap, you must have encountered surge pricing, often where it says the Farrow field. Trip has been updated, continue. Cooking. Yes, please I'm getting late for office. Well, that's an interesting machine learning model which is used by global taxi giant and others where they have differential pricing in real time based on demand. Then umber of cars, available bad weather, rush hour, etc. So they use the surge pricing model to ensure that those who need a cab can get one also, it uses predictive modeling to predict where the demand will be high, with the goal that drivers can take care of the demand and surge pricing can be minimized. Great, can you remind me to book a cab at 6 p. m. today remind you Thanks, comment below some interesting everyday examples around you where machines are learning and doing amazing jobs, so that's all form ac, hin e learning basics. Today, from mys it e keep watching the space for more interesting videos. Until then, happy learning.

YouTube Video Content Summary

--> The important point to note here is that there were Nola bels of hence the learning with unlabeled data is unsupervised learning, so we saw a supervised learning where the data was labeled and the unsupervised learning where the data was unlabeled and then there's reinforcement, learning, which is A reward based learning or we can say that it works on the principle of feedback.

Fig 6.1.5 – sample result-1 (part-5)

6.2 SAMPLE RESULT – 2

Input (YouTube Video URL): https://www.youtube.com/watch?v=Sazgd9KU-Mg

Output (Text):

YouTube Video details:

Video Name : Expert Speaks - Prof. Methil Krish | Myths about Motivation

Video Duration : 16:37

Published Date : Dec 3, 2020

Views Count : 8

Likes Count : 0

Dislikes Count : 0

Channel Name : Amrita Vishwa Vidyapeetham

Tags : #ExpertSpeaks #MotivatingStudents #MythsaboutMotivation

Description :-

Motivation has many myths surrounding it, a few of them being – a person being never motivated, motivation being subjective to time, a person being lazy enough to even make an effort etc., explains Methil Krish. The secret to motivating a student is to analyze the cause of wrong directions of motivation or to encourage a small shoot of sudden motivation in such a way that it blooms into a flower.

“All human behavior is motivated”

#ExpertSpeaks #MotivatingStudents #MythsaboutMotivation#MethilKrish

YouTube Video Text:

Sole t me tell you one very important thing. Let me tell you one very important thing is that it is wrong to say that you know we do not know how to motivate our children, because we have been in the field of teaching for so many years and if you are able, if you are, if You raise your hand and say I' m not able to motivate a child. That'S it that's a wrong statement, because one

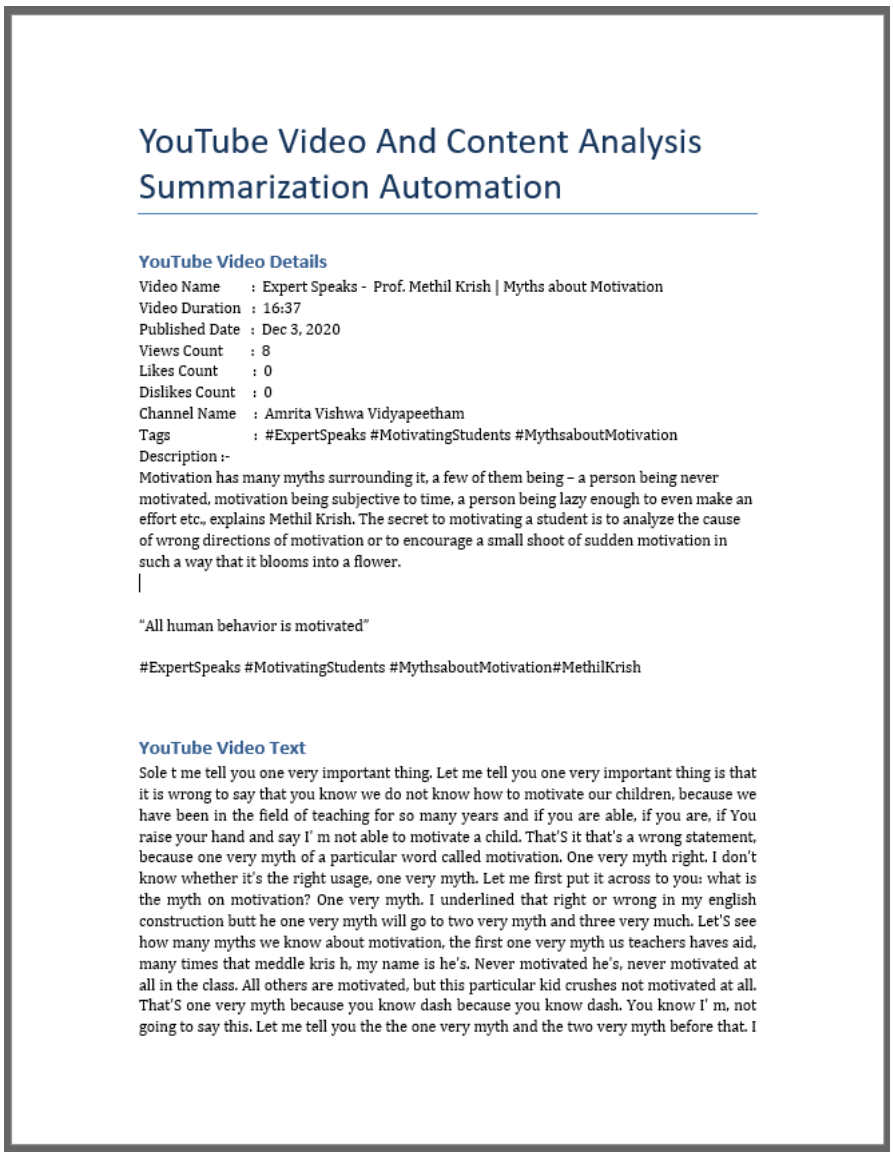
very myth of a particular word called motivation. One very myth right. I don't know whether it's the right usage, one very myth. Let me first put it across to you: what is the myth on motivation? One very myth. I underlined that right or wrong in my english construction butt he one very myth will go to two very myth and three very much. Let'S see how many myths we know about motivation, the first one very myth us teachers haves aid, many times that meddle kris h, my name is he's. Never motivated he's, never motivated at all in the class. All others are motivated, but this particular kid crushes not motivated at all. That'S one very myth because you know dash because you know dash. You know I' m, not going to say this. Let me tell you the the one very myth and the two very myth before that. I want each of you to understand that all human behavior is motivated. The every action of your child in the classroom is because of motivation as a human being. Anything that do you do is because of motivation if a child sleeps in a classroom because she or he, is motivated, if any of my teachers who are attending my class leaves my classis because he's or she is motivated, tole ave, my class, please understand this. It is not because of known motivation, it's only because of the fact that she or he is motivated to leave my life class without listening to what i am going total k to them. So it is a motivation which leads every human behavior actions, the actions that every human being does my i lift my hand, because i am motivated to leave my hand exit one thing that Isth e heart pumping the blood 24 into seven, except for the heart pumping The blood every human behavior is motivated, understand this fasts o, don't tell to the principal or the principal to somebody else that this child in my class is not motivated. That'S wrong statement. That'S a myth, so one very myth: let's go to the two very myth. Some teachers says he's motivated one day and next days he's not or he's not motivated. You know you can't say because motivation is like it's like constant. It'S like love. You can't say you know, i love my husband Ono ne day. I love him second day. I don't love it third day. I love him fourth day. I don't love him on wed ne day. I love my husband Thursday. I don't love him. Oh my god. It is impossible,

love is constantly imagined. A teacher has a fight with with her husband in the morning because he wanted to have bread and she makes ital Y's and there's ac oral and suddenly, both of them fight with each other. The usual phenomena happens in every house and then she leaves the school and suddenly by afternoon he calls up the principal and says: oh look, there's a small cut in my finger just involved my wife and thew. If e, oh, my god, then she thinks oh morning. I had a fight with my husband and daughter today, so sher us hes to the house that evening whens he sees the husband with a little cut. Oh my god, you should see the reaction. If there is a camera to be, you know recorded. Oh my god. It'S if the hand is cut a small little cut. Oh my god, how did it happen? So what happened to thew hat happened to the anger what you had in the morning, because you can't say that i was angry in the morning evening. I'M not angry! It'S constants o it's wrong to say the second very myth is yes, it cannot be because you know there is again if people are into physics see when you video, when you leave a clock right at different timings, there will be one particular point of time that All the three clocks, bingo bingo bingo, come to one particular time. I'M not a physics teacher. If there's teacher listening to meth is, is this will happen all right? You leave it at 12. 40, one at 11, 40 one at 12, 20, but there will be a particular as it goes and grows. There is one particular moment of time all the three clocks will bingo bingo bingo come at one particular time, so that is the time when a child gets motivated. So you know you you, he was his reactions are terrible, but suddenly one point morning he comes and says, teacher you are looking so beautiful today, that's the time he gets motivated. And what do you do you? Just you just pull him down and say what the hell there's a silent child, silent kid of my class suddenly wakes up and says: he's motivated teachers come on. That'S the time he's motivated and he comes and says: you're beautiful. That'S because he's motivated, but you pull him down again. You push him down again saying what the hell are you talking about my beauty, I' m beautiful every day, but for him that particular day right all of the days his performance was inconsistent. Suddenly he becomes ac on sis tent child and

then wakes up and says teacher. You look so beautiful and what do you dosh ut up sit down? Please don't do that teachers. You can see the wives. You can see some signals. You can see some positiveness there's a green shoot which just shoots up from that little child pull him up instead of pushing it down, don't push him down, so it happens that inconsistency goes on god's own. Suddenly the consistency comes in terms of his performance and suddenly wakes up and says teacher you're, so beautiful, that's it. You just go hug him and say hide ar. How did you feel today - and that is the level of motivation that needs to be pushed up rather than pull down, but most of the teachers fail to do that, so that is, you can say. Third, you always go and complain the to the principal and saying look crush, he's so lazy that he won't even try. Let me tell you nobody's lazy, i don't think anybody is lazy if Krishna is not trying, because he's not lazy is because of learned helplessness. Now you know nothing about the car right. You go the friend of yours who knows everything about the car, but you know how to drive theca rho w. Do you drive the car? Suddenly theca r stops of the way, but you don't know: where is the bonnet? How to open the bonnet, nothing! You knows, o the car stops the friend who's sitting on the lefts id e of yours, if you're driving in India, if you're driving abroad, sometimes you as it's the right side, the friend will say what the hell is happening here. She'S so lazy to get out and open the bonnet, but unfortunately it's not that she's lazy, but she doesn't know. Where is how to pull that knob to open them, and even she opens the knob. She doesn't know where the engine? What is that nothing? But she knows drivings o. It is very wrong to say that your child, the child, has certain helplessness, because i tell this many times to my teachers. You know you must be like doctors, differential diagnosis. It is not correct for teachers to say. Look that your child is lazy. Nobody is lazy. The problem is helplessness. How much of times how many times my math teacher tried to teach mem athematic sand? It'S not because i was lazy because my understanding of math s was little slow. But if the teacher calls me lazy, I'm sorry, so you know what i said. The reason for ahead ache can be different.

YouTube Video Content Summary:

--> It'S constants o it's wrong to say the second very myth is yes, it cannot be because you know there is again if people are into physics see when you video, when you leave a clock right at different timings, there will be one particular point of time that All the three clocks, bingo bingo bingo, come to one particular time.



YouTube Video And Content Analysis Summarization Automation

YouTube Video Details

Video Name : Expert Speaks - Prof. Methil Krish | Myths about Motivation
Video Duration : 16:37
Published Date : Dec 3, 2020
Views Count : 8
Likes Count : 0
Dislikes Count : 0
Channel Name : Amrita Vishwa Vidyapeetham
Tags : #ExpertSpeaks #MotivatingStudents #MythsaboutMotivation
Description :-
Motivation has many myths surrounding it, a few of them being – a person being never motivated, motivation being subjective to time, a person being lazy enough to even make an effort etc., explains Methil Krish. The secret to motivating a student is to analyze the cause of wrong directions of motivation or to encourage a small shoot of sudden motivation in such a way that it blooms into a flower.

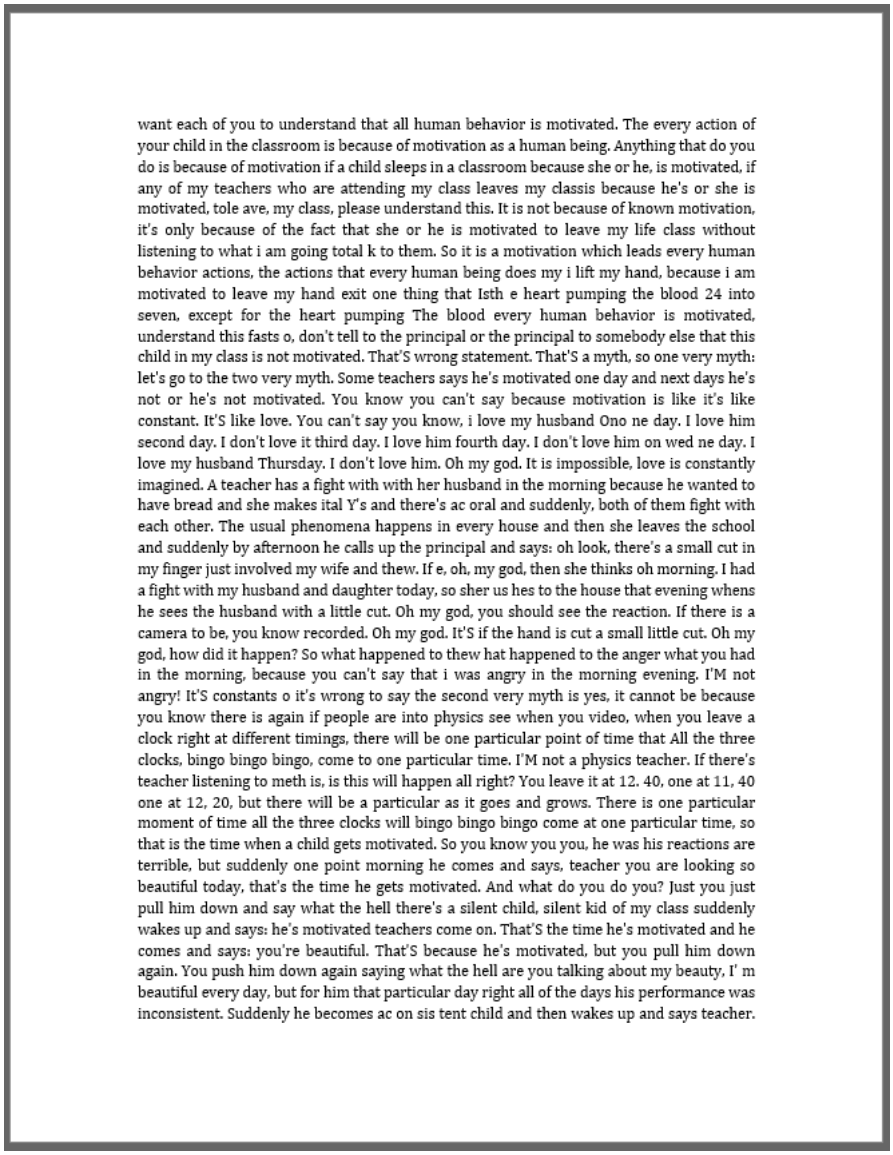
"All human behavior is motivated"

#ExpertSpeaks #MotivatingStudents #MythsaboutMotivation#MethilKrish

YouTube Video Text

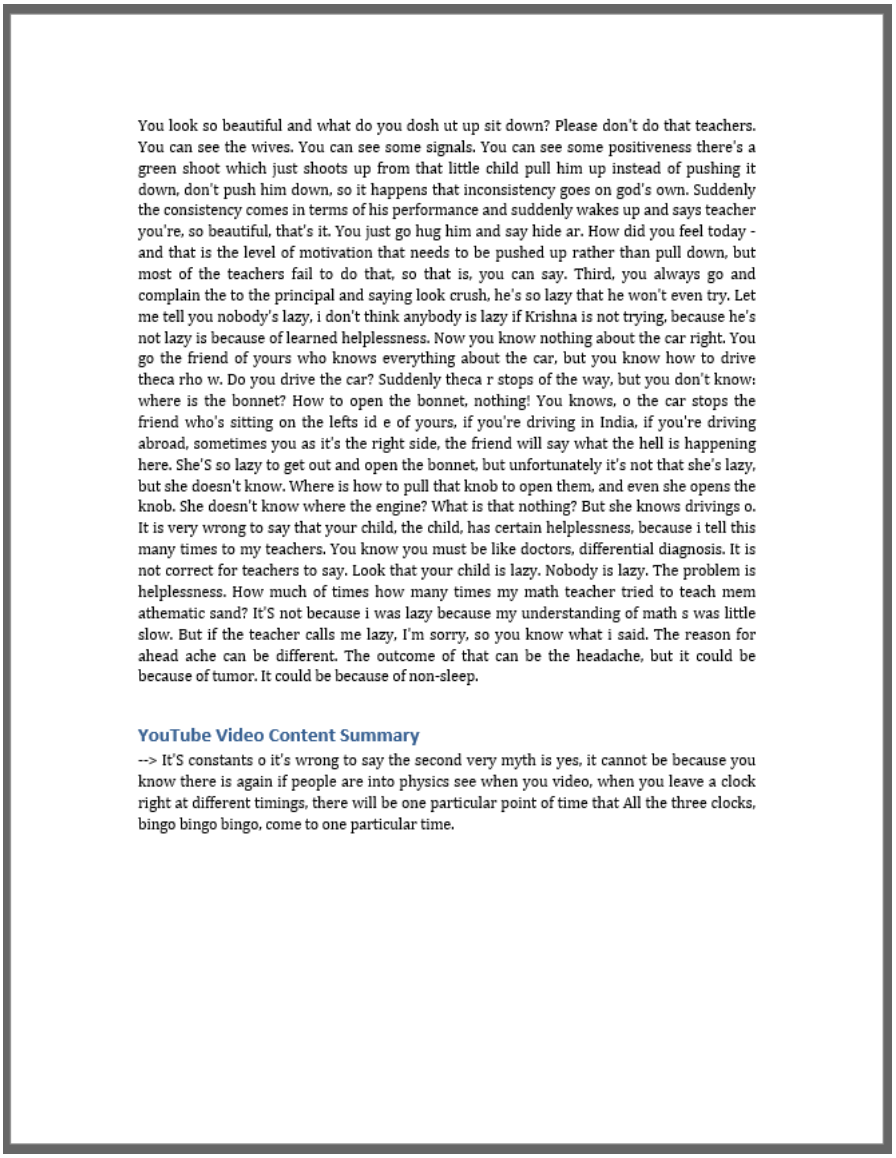
Sole t me tell you one very important thing. Let me tell you one very important thing is that it is wrong to say that you know we do not know how to motivate our children, because we have been in the field of teaching for so many years and if you are able, if you are, if You raise your hand and say I' m not able to motivate a child. That'S it that's a wrong statement, because one very myth of a particular word called motivation. One very myth right. I don't know whether it's the right usage, one very myth. Let me first put it across to you: what is the myth on motivation? One very myth. I underlined that right or wrong in my english construction butt he one very myth will go to two very myth and three very much. Let'S see how many myths we know about motivation, the first one very myth us teachers haves aid, many times that meddle kris h, my name is he's. Never motivated he's, never motivated at all in the class. All others are motivated, but this particular kid crushes not motivated at all. That'S one very myth because you know dash because you know dash. You know I' m, not going to say this. Let me tell you the the one very myth and the two very myth before that. I

Fig 6.2.1 – sample result-2 (part-1)



want each of you to understand that all human behavior is motivated. The every action of your child in the classroom is because of motivation as a human being. Anything that do you do is because of motivation if a child sleeps in a classroom because she or he, is motivated, if any of my teachers who are attending my class leaves my classis because he's or she is motivated, tole ave, my class, please understand this. It is not because of known motivation, it's only because of the fact that she or he is motivated to leave my life class without listening to what i am going total k to them. So it is a motivation which leads every human behavior actions, the actions that every human being does my i lift my hand, because i am motivated to leave my hand exit one thing that Isth e heart pumping the blood 24 into seven, except for the heart pumping The blood every human behavior is motivated, understand this fasts o, don't tell to the principal or the principal to somebody else that this child in my class is not motivated. That'S wrong statement. That'S a myth, so one very myth: let's go to the two very myth. Some teachers says he's motivated one day and next days he's not or he's not motivated. You know you can't say because motivation is like it's like constant. It'S like love. You can't say you know, i love my husband Ono ne day. I love him second day. I don't love it third day. I love him fourth day. I don't love him on wed ne day. I love my husband Thursday. I don't love him. Oh my god. It is impossible, love is constantly imagined. A teacher has a fight with with her husband in the morning because he wanted to have bread and she makes ital Y's and there's ac oral and suddenly, both of them fight with each other. The usual phenomena happens in every house and then she leaves the school and suddenly by afternoon he calls up the principal and says: oh look, there's a small cut in my finger just involved my wife and thew. If e, oh, my god, then she thinks oh morning. I had a fight with my husband and daughter today, so sher us hes to the house that evening whens he sees the husband with a little cut. Oh my god, you should see the reaction. If there is a camera to be, you know recorded. Oh my god. It'S if the hand is cut a small little cut. Oh my god, how did it happen? So what happened to thew hat happened to the anger what you had in the morning, because you can't say that i was angry in the morning evening. I'M not angry! It'S constants o it's wrong to say the second very myth is yes, it cannot be because you know there is again if people are into physics see when you video, when you leave a clock right at different timings, there will be one particular point of time that All the three clocks, bingo bingo bingo, come to one particular time. I'M not a physics teacher. If there's teacher listening to meth is, is this will happen all right? You leave it at 12. 40, one at 11, 40 one at 12, 20, but there will be a particular as it goes and grows. There is one particular moment of time all the three clocks will bingo bingo bingo come at one particular time, so that is the time when a child gets motivated. So you know you you, he was his reactions are terrible, but suddenly one point morning he comes and says, teacher you are looking so beautiful today, that's the time he gets motivated. And what do you do you? Just you just pull him down and say what the hell there's a silent child, silent kid of my class suddenly wakes up and says: he's motivated teachers come on. That'S the time he's motivated and he comes and says: you're beautiful. That'S because he's motivated, but you pull him down again. You push him down again saying what the hell are you talking about my beauty, I' m beautiful every day, but for him that particular day right all of the days his performance was inconsistent. Suddenly he becomes ac on sis tent child and then wakes up and says teacher.

Fig 6.2.2 – sample result-2 (part-2)



You look so beautiful and what do you dosh ut up sit down? Please don't do that teachers. You can see the wives. You can see some signals. You can see some positiveness there's a green shoot which just shoots up from that little child pull him up instead of pushing it down, don't push him down, so it happens that inconsistency goes on god's own. Suddenly the consistency comes in terms of his performance and suddenly wakes up and says teacher you're, so beautiful, that's it. You just go hug him and say hide ar. How did you feel today - and that is the level of motivation that needs to be pushed up rather than pull down, but most of the teachers fail to do that, so that is, you can say. Third, you always go and complain the to the principal and saying look crush, he's so lazy that he won't even try. Let me tell you nobody's lazy, i don't think anybody is lazy if Krishna is not trying, because he's not lazy is because of learned helplessness. Now you know nothing about the car right. You go the friend of yours who knows everything about the car, but you know how to drive theca rho w. Do you drive the car? Suddenly theca r stops of the way, but you don't know: where is the bonnet? How to open the bonnet, nothing! You knows, o the car stops the friend who's sitting on the lefts id e of yours, if you're driving in India, if you're driving abroad, sometimes you as it's the right side, the friend will say what the hell is happening here. She'S so lazy to get out and open the bonnet, but unfortunately it's not that she's lazy, but she doesn't know. Where is how to pull that knob to open them, and even she opens the knob. She doesn't know where the engine? What is that nothing? But she knows drivings o. It is very wrong to say that your child, the child, has certain helplessness, because i tell this many times to my teachers. You know you must be like doctors, differential diagnosis. It is not correct for teachers to say. Look that your child is lazy. Nobody is lazy. The problem is helplessness. How much of times how many times my math teacher tried to teach mem athematic sand? It'S not because i was lazy because my understanding of math s was little slow. But if the teacher calls me lazy, I'm sorry, so you know what i said. The reason for ahead ache can be different. The outcome of that can be the headache, but it could be because of tumor. It could be because of non-sleep.

YouTube Video Content Summary

--> It'S constants o it's wrong to say the second very myth is yes, it cannot be because you know there is again if people are into physics see when you video, when you leave a clock right at different timings, there will be one particular point of time that All the three clocks, bingo bingo bingo, come to one particular time.

Fig 6.2.3 – sample result-2 (part-3)

CHAPTER 7 – CONCLUSION AND FUTURE ENHANCEMENT

Conclusion:

Web scraping, it is the process of constructing an agent which can extract, parse, download and organize useful information from the web page automatically. It can be implemented in any scale to yield specific information. Moreover, using this technique we can extract the individual data elements from the webpage using those site-specific features.

After performing the web scraping, text extraction and some of the basic and crucial natural language techniques and algorithms like lemmatization, normalization, N-gram model, sentence ranking algorithm, etc. we will generate the multi-point summary or a single-point summary based on the text content extracted from the YouTube video. By using python libraries, we will take the structured output in to document file.

Future enhancement:

The current system was capable of extracting all the YouTube video details along with the text extracted from the speech/soundwaves present in that particular video. Also, using some of the Natural Language Processing techniques. The system was able to generate a multi-point summary/single-point summary. In future, we can improve the data quality for the extracted text, by emphasizing it. Also, by implementing the machine learning algorithms to this structured data extracted will help in analyzing more data which will enables the system to come across the most important solution for YouTubers to rank their video in top positions of their corresponding niche.

REFERENCES

[1] Pratibha Devihosur1, Naseer, "**Automatic Text Summarization Using Natural Language Processing**," | Aug -2017 IRJET International Research General of Engineering and Technology, doi: 01.08.2017/IRJET Volume: 04 Issue: 08

[2] T. Sri Rama Raju, Bhargav Allarpu, "**Text Summarization using Sentence Scoring Method**," | Aug -2017] IRJET International Research General of Engineering and Technology, doi: 10.08.2017/IRJET Volume: 04 Issue: 04

[3] Anand V. Saurkar, Kedar G. Pathare, Shweta A. Gode, "**An Overview On Web Scraping Techniques Ans Tools**" | Aug -2017] IRJET International Research General of Engineering and Technology, doi: 10.08.2017/IRJET Volume: 04 Issue: 04

[4] Pratiksha Ashiwal , S.R.Tandan , Priyanka Tripathi , Rohit Miri, " **Web Information Retrieval Using Python and BeautifulSoup**," |June 2016| / iJRASET International Journal for Research in Applied Science and Engineering Technology, doi: 01.06.2016/ iJRASET Volume: 4, Issue: VI

[5] Viny Christinti M., Walda, Tri Sutrisno, " **Comments Scraping Application for Review YouTube Content**," | Aug -2017 | IOP Conf. Series: Materials Science and Engineering, doi: 01.03.2017/ IOP Conf. Series