

Date:	22-05-2020	Name:	Roshni A B
Course:	TCS ION CAREER EDGE	USN:	4AL17EC080
Topic:	Understand artificial intelligence(AI)-Part 1, Understand artificial intelligence(AI)-Part 2 and Assessment	Semester and section	6 <sup>th</sup> sem B-sec
Github repository:	Roshni-online		

Indian Institute of Technology, Kharagpur

## Applications

- Computer vision
- Image Recognition
- Robotics
- Language processing

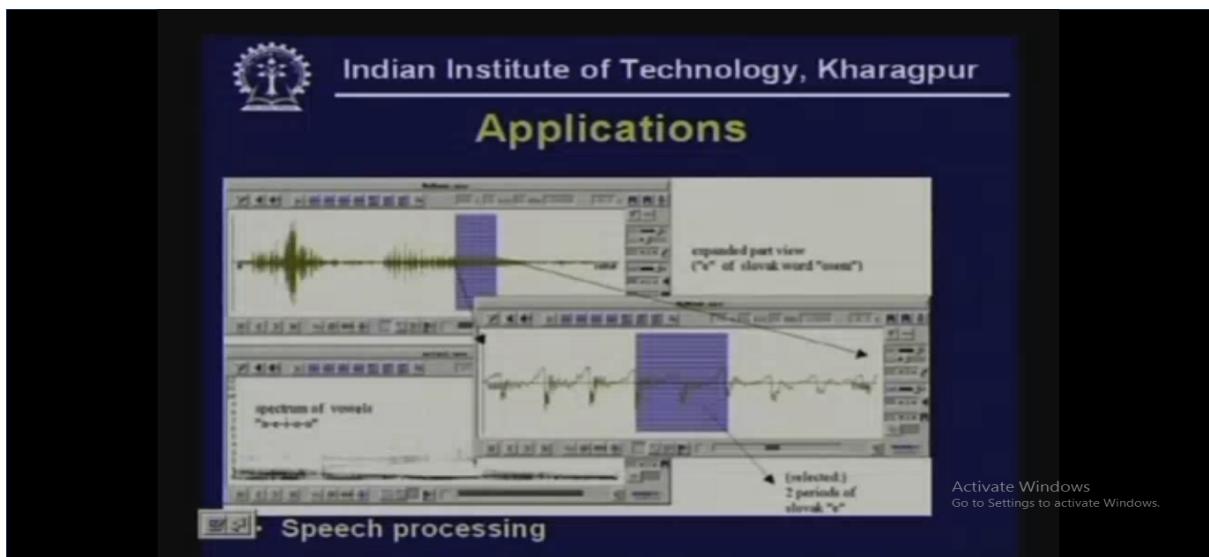
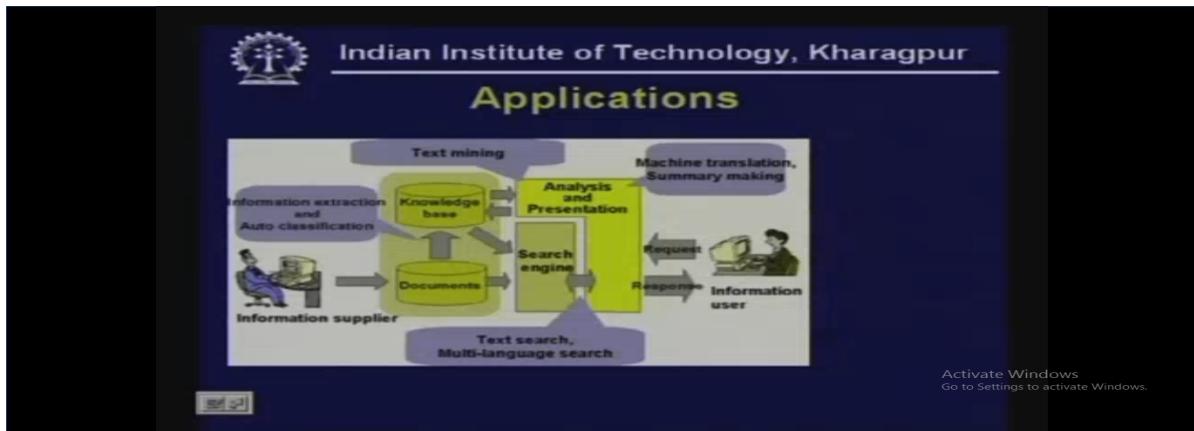
Activate Windows  
Go to Settings to activate Windows.

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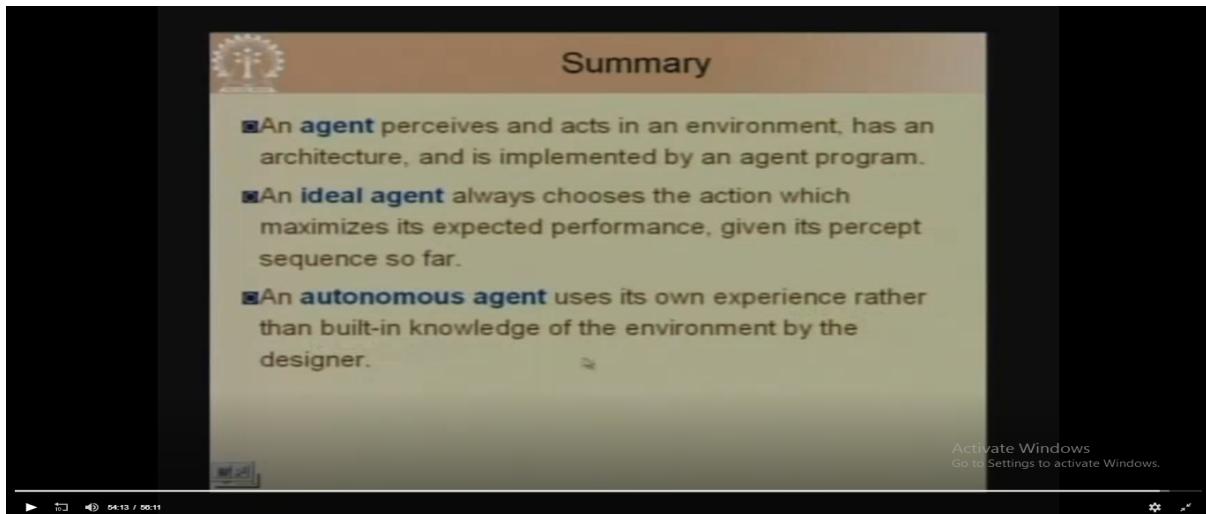
## Practical Impact of AI

- AI components are embedded in numerous devices e.g. copy machines.
- AI systems are in everyday use
  - detecting credit card fraud
  - configuring products
  - aiding complex planning tasks
  - advising physicians.
- Intelligent tutoring systems provide students with personalized attention.

Activate Windows  
Go to Settings to activate Windows.



The screenshot shows a digital learning hub interface for 'TCS iON Digital Learning Hub'. The left sidebar displays a 'TABLE OF CONTENTS' with various lessons, including 'Etiquette', 'DAY 11: Understand Accounting Fundamentals', 'DAY 12: Gain Foundational Skills in IT', 'DAY 13: Understand Artificial Intelligence (AI) - Part 1', 'Lesson - Understand Artificial Intelligence (AI) - Part 1', 'DAY 14: Understand Artificial Intelligence (AI) - Part 2', 'Lesson - Understand Artificial Intelligence (AI) - Part 2', 'DAY 15: Assessment', 'Final Assessment', and 'Feedback'. The main area shows a video titled 'Career Edge - Knockdown the Lockdown - Batch 01' with the subtitle 'Sub Unit- Lesson - Understand Artificial Intelligence (AI)'. The video content is about 'Mobile Robot Example' and shows a 'CLASSICAL SUBSUMPTION' architecture diagram. The video is at 47:38 / 56:11. Below the video, there is a comment section with 209 comments. A watermark 'poola' is visible in the top right.



The screenshot shows a web browser window for the 'TCS iON Digital Learning Hub'. The page title is 'Digital Learning - Career Edge -'. The main content area displays a course summary for 'Career Edge - Knockdown the Lockdown : Batch 0'. The summary table includes the following information:

Total Marks	Pass Marks	Attempts Taken	Duration	Start Time	View Assessment Analysis	Already cleared assessment.
30.0	18.0	02	30 Mins	15 May 2020 12:00 AM TO 14 Jul 2020 12:00 AM	At the End of Assessment	

Below the summary table is a section titled 'My Attempts' with the following data:

Attempted On	Attempted Duration (Submission Time)	Marks Obtained	Status	Action
22 May 2020 12:16 PM	0:48:39 Hrs(01:05 PM)	19.0/30.0	Pass	-
22 May 2020 11:18 AM	0:47:6 Hrs(12:05 PM)	17.0/30.0	Fail	-

The left sidebar contains a 'TABLE OF CONTENTS' with several sections listed, each with a green checkmark icon. The sections include 'Instructions', 'DAY 1: Communicate to Impress', 'Introduction - Communicate to impress', 'Lesson - Communicate to impress', 'Conclusion - Communicate to impress', 'Improve interpersonal Skills for Better Results', 'DAY 2: Deliver Presentations with Impact', 'Introduction - Deliver Presentations with Impact', 'Lesson - Deliver Presentations with Impact', 'Conclusion - Deliver Presentations with Impact', 'Make impactful Presentation', 'DAY 3: Develop soft skills for the Workplace', 'Introduction - Develop Soft Skills for the Workplace', and 'Lesson - Develop Soft Skills for the Workplace'.

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Day -13 - unit

understand artificial

Intelligence (AI) - Part 1

• Introduction

\* On taking this lesson you should be

• Familiar with the different way of defining artificial intelligence

• understand what are the different components of intelligent behaviours

\* AI

\* is concerned with the design of intelligence in an artificial device

\* Term coined by McCarthy in 1956

The turing test

HUMAN

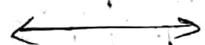
types in  
questions

receives

answers

on screen

COMPUTER /



HUMAN

processes

questions

returns

answers

Both 'claim' to be the (intelligent)  
human

The turing test : result

If the interrogator cannot reliably distinguish the human from the Computer

then the computer does possess (certified) intelligence

what's easy and what's hard:

- It has been easier to mechanize many of the high-level tasks we usually associate with "intelligence" in people
  - \* symbolic integration
  - \* proving theorems
  - \* playing chess
  - \* medical diagnosis

In intelligent behaviour

- perception
- reasoning
- learning
- understanding language

• Mars Rover

### AI Systems

- Computer Vision: Face Recognition
- Robotic : autonomous (mostly) automobile
- Natural language processing : simple machine translation
- Expert systems: medical diagnosis in a narrow domain
- Spoken language
- planning and scheduling
- Learning

- Game

## Foundations of AI

- Philosophy
- mathematics
- Economics
- Psychology
- Biology
- Computer Engineering
- Linguistics

## Day 14 - unit understand Artificial Intelligence (AI) - part 2

### Agents

- Humans
- Robots

### Types of Agents

- Software
- Expert Systems
- Autonomous Spacecraft
- Intelligent buildings

### percept based agent

- Efficient
- No internal representation for reasoning inference

*This is to certify that*

**Roshni A B**

*has successfully completed*

**Career Edge - Knockdown the Lockdown**

*online course offered by TCS iON*

Start Date: 15 May 2020 | End Date: 22 May 2020

**Topics:**

- Communication Skills ■ Presentation Skills ■ Soft Skills ■ Career Guidance Framework ■ Resume Writing
- Group Discussion Skills ■ Interview Skills ■ Business Etiquette ■ Effective Email Writing ■ Telephone Etiquette
- Accounting Fundamentals ■ IT Foundational Skills ■ Overview of Artificial Intelligence\* (Source: NPTEL)



Cert. ID : 4-6223606-1016  
Dated : 22 May 2020

*Mehul Mehta*

**Mehul Mehta**  
Global Delivery Head, TCS iON

<b>Date:</b>	<b>22-05-2020</b>	<b>Name:</b>	<b>Roshni A B</b>
<b>Course:</b>	<b>Python programming</b>	<b>USN:</b>	<b>4AL17EC080</b>
<b>Topic:</b>	<b>Application 2:Create webmaps with python and folium</b>	<b>Semester and section:</b>	<b>6<sup>th</sup> sem and B sec</b>

## HTML on Popups

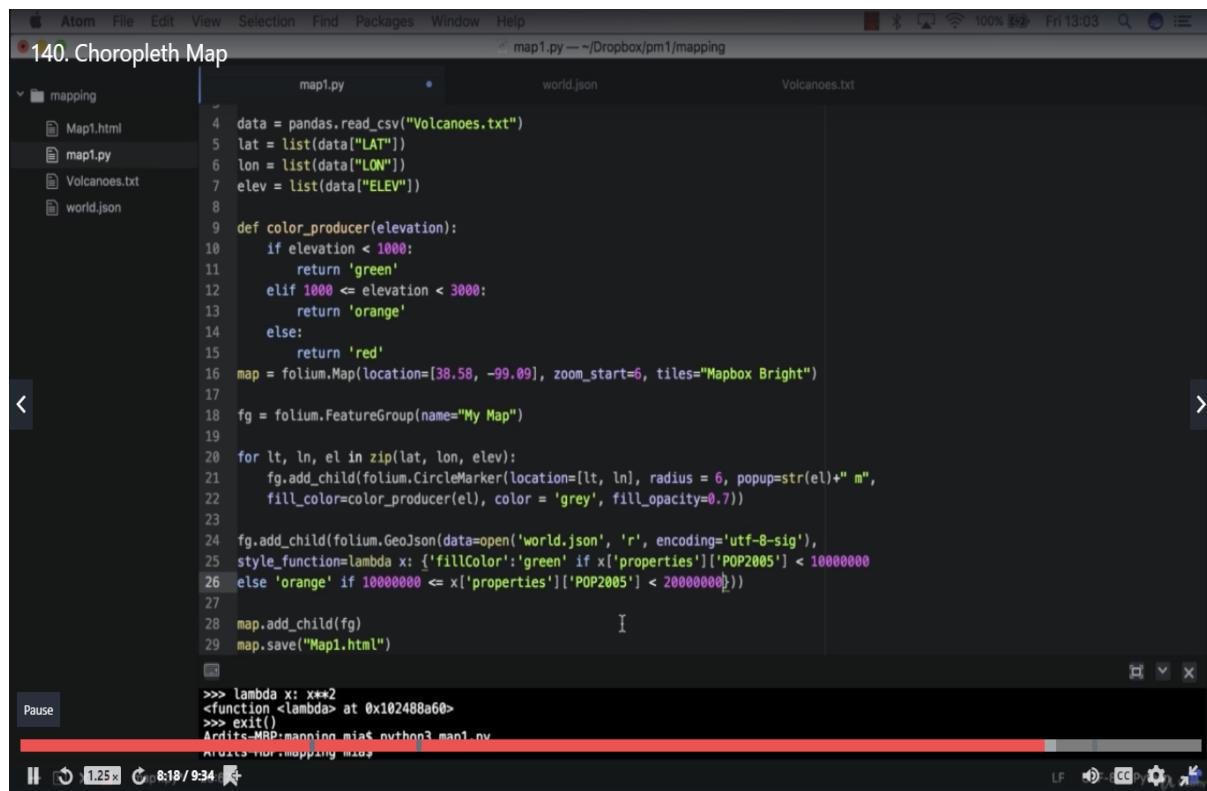
Note that if you want to have stylized text (bold, different fonts, etc) in the popup window you can use HTML. Here's an example:

```

1 import folium
2 import pandas
3
4 data = pandas.read_csv("Volcanoes.txt")
5 lat = list(data["LAT"])
6 lon = list(data["LON"])
7 elev = list(data["ELEV"])
8
9 html = """<h4>Volcano information:</h4>
10 Height: %s m
11 """
12
13 map = folium.Map(location=[38.58, -99.09], zoom_start=5, tiles="Mapbox
14 Bright")
15 fg = folium.FeatureGroup(name = "My Map")
16
17 for lt, ln, el in zip(lat, lon, elev):
18     iframe = folium.IFrame(html=html % str(el), width=200, height=100)
19     fg.add_child(folium.Marker(location=[lt, ln], popup=folium.Popup(
20         html, max_width=300)))
21
22 map.add_child(fg)
23 map.save("Map_html_popup_simple.html")

```

You can even put links in the popup window. For example, the code below will produce a popup window with the name of the volcano as a link which does a Google search for that particular



The screenshot shows the Atom code editor with the following details:

- Title Bar:** Shows "140. Choropleth Map" and the file path "map1.py -- ~/Dropbox/prm1/mapping".
- File Explorer:** Shows a folder named "mapping" containing files: "Map1.html", "map1.py", "Volcanoes.txt", and "world.json".
- Code Editor:** Displays the Python code for generating a choropleth map. The code reads data from "Volcanoes.txt", defines a color producer function based on elevation, and creates a Folium map with a FeatureGroup named "My Map". It iterates through the data to add CircleMarker to the map, where each marker's radius and fill color are determined by its elevation. The map also includes a GeoJson layer for world boundaries.
- Terminal:** At the bottom, a terminal window shows the command "Arduits-MBP:mapping rish\$ python3 map1.py" and the output: ">>> lambda x: x\*\*2 <function <lambda> at 0x102488a60> >>> exit()".
- Status Bar:** Shows system status including battery level (1.25%), volume (8:18 / 9:34), and network connection.

```
user_name= input("Enter user name: ")
password= input("Enter password: ")

for i in range(3):
    if user_name == 'Micheal' and password ==
        'e3$WT89x':
        print("You have successfully login")
        break
    elif i==2:
        print("Account locked!")
        break
    else:
        print("Wrong Username or password. Please try
again!!!")
        user_name= input("Enter user name: ")
        password= input("Enter password: ")
```

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Day - 5

Application 2: Create webmaps  
with python and Folium

\* web map - How the output will look like

\* The Base map

\* Note

• ~~Set the next to~~

tiles = "mapbox Bright"

instead i.e.

tiles = "Stamen Terrain"

\* Adding points

\* Adding multiple points

\* adding points from files

\* Popup windows on map

\* HTML on popups

\* Color Points

\* Style Points

\* Solution

\* Geopandas Data

\* Adding a Geopandas polygon layer

\* Choropleth map

\* Layer control panel