

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 th sem B-sec
Github repository:	Roshni-online		

Indian Institute of Technology, Kharagpur

Applications

- Computer vision
- Image Recognition
- Robotics
- Language processing

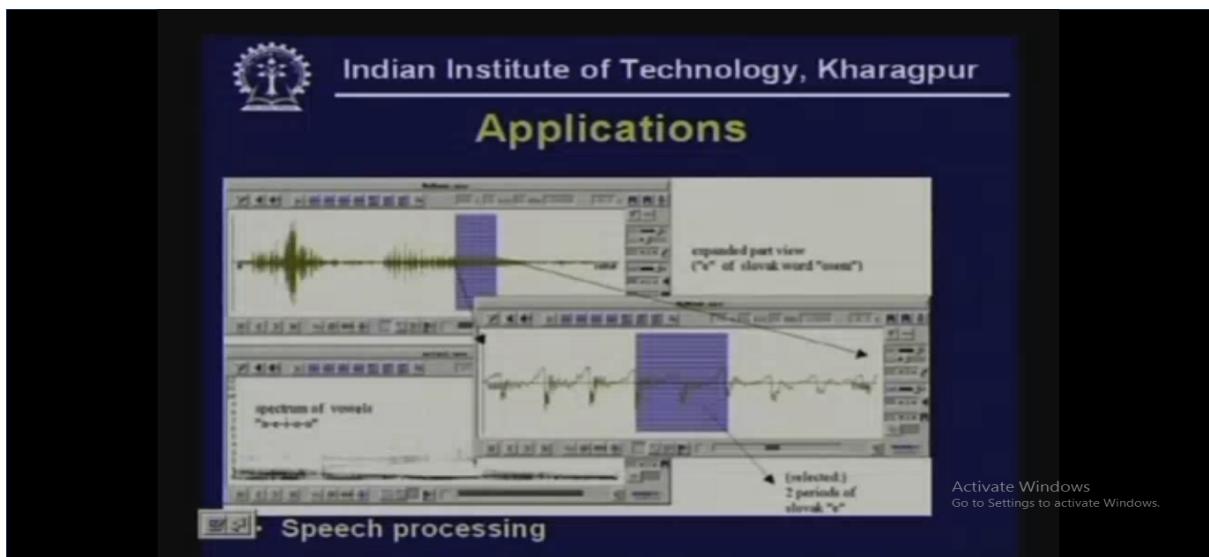
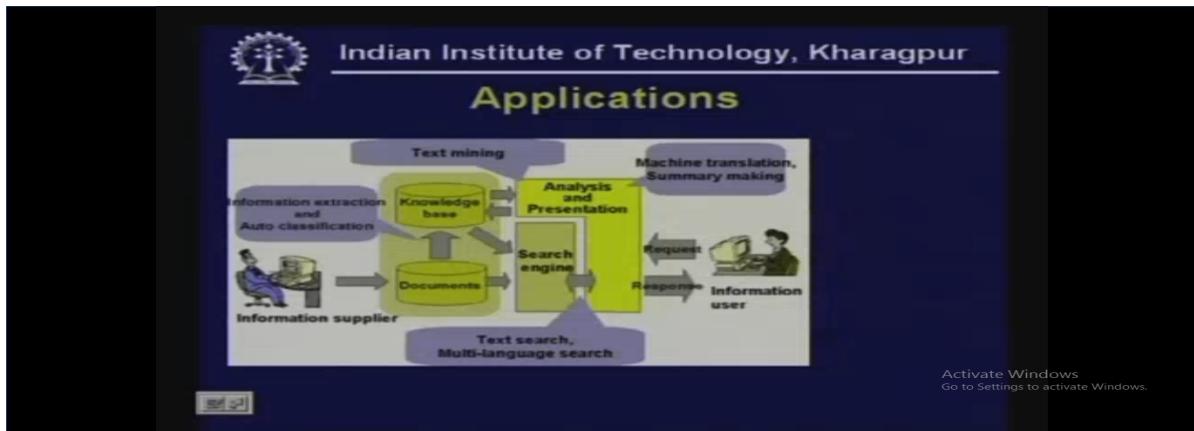
Activate Windows
Go to Settings to activate Windows.

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Practical Impact of AI

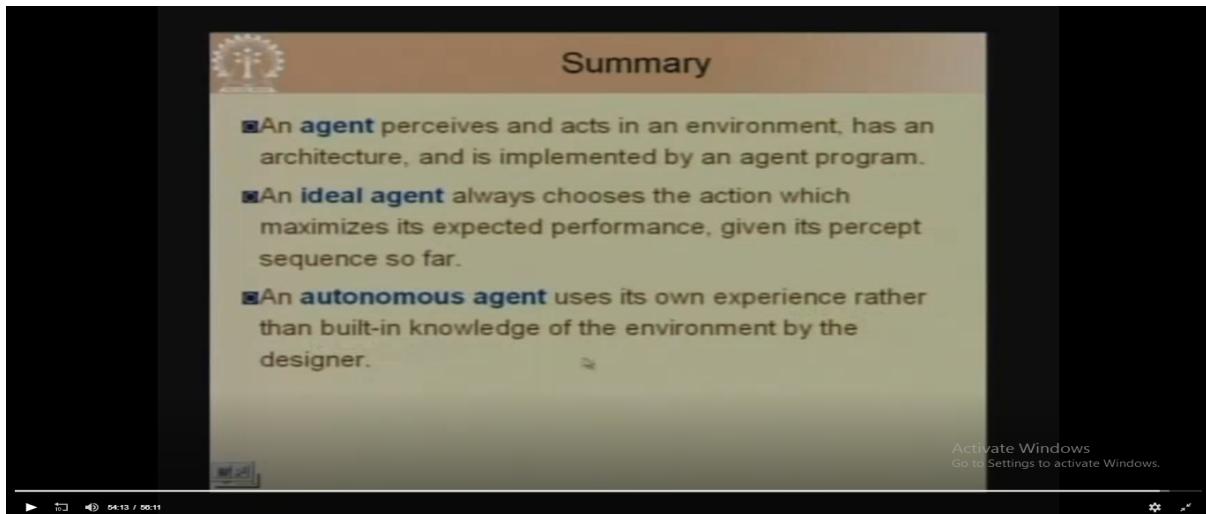
- AI components are embedded in numerous devices e.g. copy machines.
- AI systems are in everyday use
 - detecting credit card fraud
 - configuring products
 - aiding complex planning tasks
 - advising physicians.
- Intelligent tutoring systems provide students with personalized attention.

Activate Windows
Go to Settings to activate Windows.



The screenshot shows a digital learning platform interface:

- TITLE**: Career Edge - Knockdown the Lockdown - Batch 01
- TABLE OF CONTENTS** (Left sidebar):
 - Etiquette
 - Learn Corporate Telephone 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
 - Feedback
- VIDEO CONTENT** (Main area):
 - Sub Unit- Lesson - Understand Artificial Intelligence (AI) - Part 2
 - Mobile Robot Example
 - CLASSICAL SUBSUMPTION
 - Diagram illustrating the Classical Subsumption architecture for a mobile robot, showing layers for Explore, Wander, and Avoid.
 - Layer 0: Avoid Obstacles
 - Sonar : generate sonar scan
 - Collide : send HALT message to forward
 - Feel force : signal sent to run away, turn
 - Layer 1: Wander behaviour
 - Generates a random heading
 - Avoids repulsive force, generates new heading, feeds to turn and forward
- USER INTERFACE** (Bottom):
 - Quality: High, Medium, Low
 - Playback speed: slider
 - Comment button
 - Activate Windows: Go to Settings to activate Windows.



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

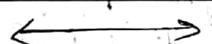
types in
questions

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

Type of Agents

- Software
- Expert Systems
- Autonomous Spacecraft
- Intelligent buildings

percept based agent

- Efficient
- No internal representation for reasoning inference

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

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 <br>
12
13 map = folium.Map(location=[38.58, -99.09], zoom_start=5, tiles="Map
14 fg = folium.FeatureGroup(name = "My Map")
15
16 for lt, ln, el in zip(lat, lon, elev):
17     iframe = folium.IFrame(html=html % str(el), width=200, height=100)
18     fg.add_child(folium.Marker(location=[lt, ln], popup=folium.Popup(
19
20
21 map.add_child(fg)
22 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

```

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: ")

```

140. Choropleth Map

```
Atom File Edit View Selection Find Packages Window Help
map1.py -- ~/Dropbox/pm1/mapping
mapping
Map1.html
map1.py
Volcanoes.txt
world.json
map1.py
4 data = pandas.read_csv("Volcanoes.txt")
5 lat = list(data["LAT"])
6 lon = list(data["LON"])
7 elev = list(data["ELEV"])
8
9 def color_producer(elevation):
10     if elevation < 1000:
11         return 'green'
12     elif 1000 <= elevation < 3000:
13         return 'orange'
14     else:
15         return 'red'
16 map = folium.Map(location=[38.58, -99.09], zoom_start=6, tiles="Mapbox Bright")
17
18 fg = folium.FeatureGroup(name="My Map")
19
20 for lt, ln, el in zip(lat, lon, elev):
21     fg.add_child(folium.CircleMarker(location=[lt, ln], radius = 6, popup=str(el)+" m",
22         fill_color=color_producer(el), color = 'grey', fill_opacity=0.7))
23
24 fg.add_child(folium.GeoJson(data=open('world.json', 'r', encoding='utf-8-sig'),
25 style_function=lambda x: {'fillColor': 'green' if x['properties']['POP2005'] < 10000000
26 else 'orange' if 10000000 <= x['properties']['POP2005'] < 20000000})
27
28 map.add_child(fg)
29 map.save("Map1.html")
```

Pause

```
>>> lambda x: x**2
<function <lambda> at 0x102488a60>
>>> exit()
Ardis-MBP:mapping mia$ python3 map1.py
```

Ardis-MBP:mapping mia\$

22/05/2020

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