

# **WELCOME TO**

# **CMPG313**

# **ARTIFICIAL INTELLIGENCE**

# **2020**

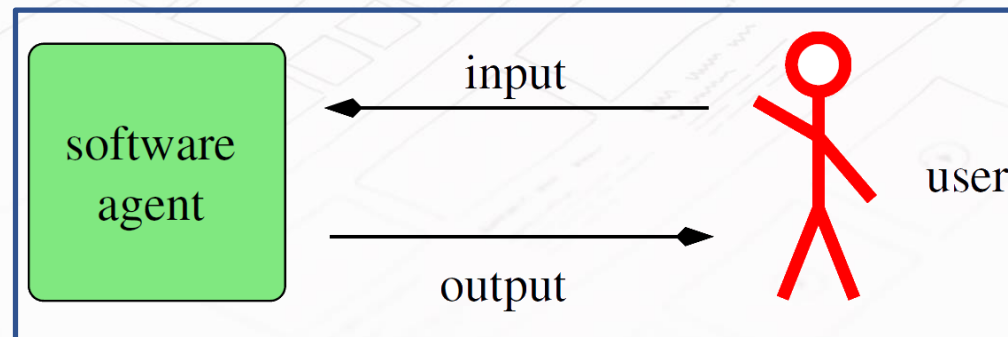
# Topic:

# Practical I

Practical 1 – an Agent

# PRACTICAL I

- For this practical you will be developing an agent that will take in information about the environment and output a string that indicates what state it is in.
- For this practical you will use two files in Resources\Practical on eFundi nl:
  - Agent.py
  - TestPractical.py



# PRACTICAL 1

- TestPractical.py

In this file the Agent is imported from Agent.py, and the interface exposed by the class is used to:

1. Instantiate an agent
2. Send it the information of the environment
3. Print out the output the agent gives when queried

```
# create the test agent
testAgent = Agent(Action.Breakfast)

# send the agent the details of the environment
d1 = datetime(year = 2020, month = 2, day = 25, hour = 15, minute = 55, second = 59)
testAgent.sense_world(d1, False)

# agent outputs results based on the state it is in
print(testAgent.perform_action())
```

# PRACTICAL 1

- Agent.py

Contains the enum of actions that can be performed and the agent class

- The agent has a `sense_world` function that takes in a datetime object and a Boolean indicating whether the agent is sick or not
- The `perform_action` function returns one of the strings in the comments based on the state of the agent

```
class Agent:

    def __init__(self, initialstate):
        self.state = initialstate
        pass

    def sense_world(self, dt, sick):
        # first decide what state you should be in when the details of the environment are known, then set self.state to that
        # if xyz:
        #     self.state = Action.xyz
        return self.state

    def perform_action(self):
        if self.state == Action.Breakfast:
            return "I am eating breakfast"
        # add in the checks for all the other states
        # return "I am eating lunch"
```



# PRACTICAL I

## Your agent needs to react as follows:

You sleep till 6AM each weekday when you get up

You sleep till 9AM on the weekend when you get up

First thing you do when you get up is to eat breakfast

On Mondays, Wednesdays and Fridays you go to the gym for an hour after breakfast

On Sundays you go to church after breakfast for an hour

After breakfast and gym (if relevant) you go to class on weekdays till 1PM when you break for lunch

On Saturdays and Sundays you go to the river after breakfast and church till lunch at 2PM

After lunch on a weekday you go back to class till 5PM when you go home and watch some television

After Lunch on a weekend day you go back to the river till dinner at 7PM

Every day you stop what you are doing and eat Dinner at 7PM

Every day after you eat dinner you watch some television till 10PM when you go to bed.

Unless you get sick, in which case you will always go to bed and only wake up for meals until you are no longer sick



# PRACTICAL I

- You must respect the interface of the agent. If the test file cannot access your agent using the same interface you will get zero for the practical!
- Upload your files into the dropbox in a folder called "Practical I".
- **Deadline for upload is 28 Feb 2020 at 12 noon.**
- Late practical work will not be considered, so rather upload it earlier than the deadline to avoid disappointment.

