

machine learning lab hw7

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1 Machine Learning Lab HW 6

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4 1.) Set up OpenAI and the enviornment

```
[1]: import openai  
import os  
import wikipedia
```

```
[2]: apikey = "sk-6DR1RzJr7LYW4olXAwuYT3B1bkFJYaFg1tDM59kwKWbSUzP6"
```

```
[3]: openai.api_key = apikey
```

5 2.) Use the wikipedia api to get a function that pulls in the text of a wikipedia page

```
[4]: page_titles = ['Artificial Intelligence', 'UCLA']
```

```
[5]: page_title = page_titles[0]
```

```
[6]: search_results = wikipedia.search(page_title)  
search_results
```

```
[6]: ['Artificial intelligence',  
      'AI boom',  
      'International Joint Conference on Artificial Intelligence',  
      'The Artifice Girl',  
      'Epitech',  
      'Tyler Perry Studios',  
      'List of international prime ministerial trips made by Giorgia Meloni',  
      'Sentential decision diagram',  
      'Normalized Google distance',  
      'Artificial Evolution Conference']
```

```
[7]: page = wikipedia.page(search_results[0])

[8]: # page content
def get_wikipedia_content(page_title):
    search_results = wikipedia.search(page_title)
    page = wikipedia.page(search_results[0])
    return(page.content)

[15]: content = get_wikipedia_content(page_title)
#content
```

6 3.) Build a chatgpt bot that will analyze the text given and try to locate any false info

```
[10]: chat_completions = openai.chat.completions.create(
    model = 'gpt-4',
    messages = [
        {'role':'system', 'content':'I will be giving you an article. I am looking_
        ↪for false information. I want to capture all potentially false info, if_
        ↪there is even small potential for it to be wrong, please return it. Please_
        ↪concisely list the false information found.'},
        {'role':'user', 'content':content[:8180]}
    ]
)

[11]: chat_completions.choices[0].message.content

[11]: '1. "Artificial intelligence was founded as an academic discipline in 1956." -
Artificial Intelligence as a concept existed before this, traced to ancient
philosophers\' ideas of human thinking as a symbolic system.\n2. "Alan Turing
was the first person to conduct substantial research in the field that he called
machine intelligence." - Although Alan Turing\'s work is seminal in the field of
AI, there were other researchers who conducted substantial work in the area of
AI even before Turing.\n3. "Funding and interest vastly increased after 2012
when deep learning surpassed all previous AI techniques, and after 2017 with the
transformer architecture." - This seems overly simplified and generalizes AI
interest and funding surges to just deep learning and transformer architectures,
while other techniques and landmark moments also played significant roles in the
evolution of AI. \n4. "The general problem of simulating (or creating)
intelligence has been broken into sub-problems." - While it\'s true that AI
research often breaks intelligence simulation into specific tasks, this
statement somewhat oversimplifies the complexity of simulating overall human
intelligence. \n5. "A Markov decision process has a transition model that
describes the probability that a particular action will change the state in a
particular way, and a reward function that supplies the utility of each state
and the cost of each action." - This simplifies the complexity of a Markov
```

decision process, and it's not just only limited to these attributes.\n6. "Machine learning is the study of programs that can improve their performance on a given task automatically." - This is a simplification of machine learning, as not all machine learning models improve their performance automatically based on the tasks they've been given. Some require human involvement for retraining and updating the model.\n7. "The growing use of artificial intelligence in the 21st century is influencing a societal and economic shift towards increased automation, data-driven decision-making, and the integration of AI systems into various areas of life." - While this is largely true, it's important to recognize that this is not uniform across all societies and economies, and the level of AI adoption and its impact can vary hugely.\n8. "A knowledge base is a body of knowledge represented in a form that can be used by a program." - Not all knowledge can be represented in a form usable by a program, a knowledge base often represents a subset of available knowledge.'

```
[17]: def chatgpt_error_correction(text):
    chat_completions = openai.chat.completions.create(
        model = 'gpt-4',
        messages = [
            {'role': 'system', 'content': 'I will be giving you an article. I am looking
            for false information. I want to capture all potentially false info, if
            there is even small potential for it to be wrong, please return it. Please
            concisely list the false information found.'},
            {'role': 'user', 'content': content[:8180]}]
        )
    return chat_completions.choices[0].message.content
```

7 4.) Make a for loop and check a few wikipedia pages and return a report of any potentially false info via wikipedia

```
[18]: for page_title in page_titles:
    try:
        print('_____' + page_title)
        content = get_wikipedia_content(page_title)
        inaccuracies = chatgpt_error_correction(content)
        print(inaccuracies)
    except:
        print('ERROR')
```

Artificial Intelligence

1. The claim that "Alan Turing was the first person to conduct substantial research in the field that he called machine intelligence" is not entirely true. Although Turing made significant contributions, other scientists like John McCarthy, Marvin Minsky, Allen Newell, and Herbert Simon were significant contributors to the field during its early stages.
2. The article states that "Funding and interest vastly increased after 2012 when deep learning surpassed all previous AI techniques, and after 2017 with the

transformer architecture." This may not be entirely accurate. Although deep learning and transformer architectures have been significant, they did not necessarily surpass all other AI techniques across all tasks and use-cases.

3. The assertion, "General intelligence (the ability to complete any task performable by a human) is among the field's long-term goals," could be seen as an oversimplification. Many experts believe that achieving true artificial general intelligence is far off, if even possible.

4. The claim that "Among the most difficult problems in knowledge representation are: the breadth of commonsense knowledge (the set of atomic facts that the average person knows is enormous);" may not be entirely accurate. The difficulty lies not only in the breadth of commonsense knowledge but also in its depth and complexity. Knowledge representation deals with far more than just atomic facts.

5. The statement that, "An 'agent' is anything that perceives and takes actions in the world" might be misleading. In the context of AI, an agent is a software entity that performs tasks on behalf of a user or another program, with some degree of autonomy.

6. The article states that "In some problems, the agent's preferences may be uncertain, especially if there are other agents or humans involved." This could be misleading because an AI agent does not have preferences in the same way humans do.

7. The claim: "Machine learning is the study of programs that can improve their performance on a given task automatically," oversimplifies the nature of machine learning which involves training an AI model using data to make predictions or decisions, rather than simply improving performance on a task.

8. The statement "Unsupervised learning analyzes a stream of data and finds patterns and makes predictions without any other guidance" can be misleading as unsupervised learning primarily identifies patterns and structures from data without labeled responses, it doesn't necessarily make predictions.

-----UCLA

1. "UCLA offers 337 undergraduate and graduate degree programs": As of now, UCLA offers 125+ majors and 90+ minors for undergraduates, and 40+ master's, credential, and doctoral programs for graduates. This information varies and must be updated regularly.

2. "It received 174,914 undergraduate applications for Fall 2022": Exact future application numbers aren't known and this data requires update.

3. "They have won 121 NCAA team championships": The number is 118 NCAA team championships as per current UCLA records.

4. "410 Bruins have made Olympic teams, winning 270 Olympic medals: 136 gold, 71 silver and 63 bronze": As per recent reports, UCLA athletes have won 261 Olympic medals: 135 gold, 65 silver and 61 bronze.

5. "As of October 2021, 27 Nobel laureates, five Turing Award winners, two Chief Scientists of the U.S. Air Force and one Fields Medalist have been affiliated with it as faculty, researchers and alumni": According to UCLA, there have been 24 Nobel laureates associated with the university. The university's connection to winners of the Turing Award and Chief Scientists of the U.S. Air Force could not be immediately verified.

6. "As of August 2021, 55 associated faculty members have been elected to the National Academy of Sciences...": Without references, specific numbers about

faculty achievements may be out of date.

7. The university was elected to the Association of American Universities in 1974": UCLA was elected to the Association of Universities in 1972.

8. "UCLA was permitted to award the master's degree in 1933, and the doctorate in 1936": UCLA started awarding master's degrees in 1929 and the doctorate in 1933.

9. "During its first 32 years, UCLA was treated as an off-site department of the main campus in Berkeley": This statement appears to oversimplify the complex early relationship between UCLA and UC Berkeley, and the exact nature of their early relationship might be subject to interpretation.

10. "In late 1923, the Board of Regents authorized a fourth year of instruction and transformed the Junior College into the College of Letters and Science, which awarded its first bachelor's degrees in 1925": According to UCLA, the College of Letters and Science was established later, in 1934.