CSE 415, Winter 2020, Assignment 1

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1. My major field of study is Data Science. Data scientists work closely to look at businesses to understand their vision and goals; they use data to achieve those goals. They design data modeling processes, create algorithms and predictive models to extract the data the business needs, then help analyze the data to reach conclusions that call for comprehensive actions that make businesses better.

2. Many of a data scientist's work is already done by the computer. For example, there are several tools available to clean data to go through the data analysis phase. The data scientist might have intuitions about the data through the investigation of the data is done through software already available like Python. Data can be organized and queried through relational database management tools and SQL. Once algorithms are created, the work of predictive modeling is done entirely by the computer. Data visualization is also done by the computer through tools like PowerBI or Tableau.

3. Even though there are several tools available to carry out the job of a data scientist, it is still not essentially automated. For example, statistical analysis might show you where the distribution of the data lies or what correlations can be seen. For example, data can show that using Internet Explorer leads to murder. But it is the job of a data scientist to analyze and understand correlations to find underlying correlations and other statistical fallacies. Instead of modeling and data manipulation, the value is created in translating a customer's needs into some kind of model and implementing that in a useful way. *(Graaf)*. However, with AI there are ways a hypothetical "beyond the state of the art" computer could possibly identify and predict the aforementioned. In fact, if completed successfully, it would produce accurate and insightful results like never seen before.

4.
    a. In the Data Science a Turing Test could be judged on the basis of the overlapping "sweet-spot" between unintelligent human behavior and intelligent behavior humans don't do. Though, the Turing test only check if a computer can behave like a human being; for the purposes of Data Science I believe it should also directly test intelligence and ability to analyze information taking into account all the possible data points.
    b. For example, a Subaru car dealership manager could ask the bot if there are trends that people their cars exhibit. Though the fact that the more cats a person owns, the more likely you are to own a Subaru is a legitimate answer, it probably isn't what the dealership is looking for from a marketing perspective.
    c. Therefore, logically extracting context from *who* the information is for and for what *goal* is an important affordance for the Turing Test.

5. A must-have feature to be considered "intelligent" within the data science field then, would be the ability to tailor the vast amount of available data for the particular user and goal to provide an actionable solution which is applicable in the real world. This is especially useful in customer interaction in the form of e-commerce platforms, chatbots and other sources that can elevate customer experience.
6. The likely progress of AI in Data Science will go towards the automation to a level where customer service representatives, retail cashiers or even drivers can be replaced. However, I foresee a more debate on the ethical implications of AI and its obscure concept of transparency. Therefore it seems more likely that when it comes to doctors and lawyers, AI service providers will have made concerted effort to present their technology as something which can work alongside human professionals, assisting them with repetitive tasks while leaving the "final say" to them. *(Anderson and Rainie)*.
7. One significant challenge creating an agent that can pass the aforementioned Turing test would be the nuances that pertain to the perfect overlap between unintelligent human behavior and intelligent behaviors that users do not do. Additionally, holding a conversation that is streamlined toward the goals of the user might be tricky.

Citations

Graaf, R. de. (2019, June 3). Data Scientists Can't Be Replaced by AI. Retrieved from https://towardsdatascience.com/data-scientists-cant-be-replaced-by-ai-841a0a2a8df9.

Anderson, J., & Rainie, L. (2019, December 31). Artificial Intelligence and the Future of Humans. Retrieved from https://www.pewresearch.org/internet/2018/12/10/artificial-intelligence-and-the-future-of-humans/

Transcript of session with chatbot:

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My name is DS Genius Bot. The DS in my name stands for Data Science!
 I was designed by Saasha Mor a Informatics major in college and she has a keen interest in Data Science.
 If you don't like the way I assist you today, contact here at saashm@uwedu.
 How can I help you?
Say "I like books" if you want to know about resources for books
Say "I like websites" if you wan to learn about websites you can learn from
You can also talk about which aspects of data science you like for example, data visualization, analysis,
databases etc. Type "roles" if you want to see which roles you might be in as a data enthusiast.
Say "author" if you want to know more about the author of this chatbot
Say "?" if you don't know what to say
Say "Bye" if you want to exit
Type to chat with me.
When you want to quit, type 'bye'.

-> hello
Wazzzaaaa

-> I want to know about data science
What do you want to know about data science?

-> anything
That's great! Say ? if you want to know how I can help you

-> ?
Say "I like books" if you want to know about resources for books
Say "I like websites" if you wan to learn about websites you can learn from
You can also talk about which aspects of data science you like for example, data visualization, analysis,
databases etc. Type "roles" if you want to see which roles you might be in as a data enthusiast.
Say "author" if you want to know more about the author of this chatbot
Say "?" if you don't know what to say
Say "Bye" if you want to exit

-> I like books
You might like Machine Learning Course, Created by Stanford University and taught by Dr. Andrew Ng

-> What about websites
You might want to checkout Kaggle

-> tell me about visualizations
What kind of charts do you like?
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-> pie charts!
That's great! Say ? if you want to know how I can help you

-> tell me about data analysis
What do you want to analyze?

-> big databases
Which database do you want to look for?

-> anything
That's great! Say ? if you want to know how I can help you

-> which roles can i be in
You can be whatever you want to be!

-> Thanks! tell me about the author
Her name is Saasha Mor!

-> bye
Thanks for chatting. Goodbye!
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