Assignment 3: Artificial Intelligence

(1)

1.What AI or machine learning terms were mentioned?

1. AlphaGo

2. Neural Network

3. Supervised learning

4. Deep learning

5. Reinforcement learning

6. Self-play

2. What, if any, machine learning types AlphaGo uses?

AlphaGo combines reinforcement learning, supervised learning, and deep neural networks to master Go. It starts by learning from human games, then improves through self-play. Using Monte Carlo Tree Search (MCTS), it evaluates board positions and refines decisions for optimal play.

3. Why do you think Go was chosen as the target for AI development?

Go was chosen for its immense complexity, far beyond chess, with countless possible moves and board states. Traditional brute-force algorithms fail, making it a perfect test for AI to showcase strategic learning rather than relying on fixed rules.

4. what impressed you the most?

What fascinated me most was how AlphaGo played moves that even top Go players initially found puzzling but later recognized as brilliant. This demonstrated that AI goes beyond pattern recognition—it can innovate and show creativity. The impact extends far beyond Go, influencing fields like medicine and business, highlighting the true power of deep learning and reinforcement learning.

(2)

1. **Would you say that Deep Blue was intelligent? Explain.**

Deep Blue wasn't truly intelligent—it didn't learn or improve on its own. Instead, it relied on brute-force computing power and advanced programming to calculate moves quickly. Unlike AI systems like AlphaGo, it had no real understanding of chess beyond what it was explicitly programmed to do.

2. **what contributed to Deep Blue's success and how? Who/what should get credit for it?**

Credit for Deep Blue's success belongs to IBM's development team, the programmers, and the chess experts who trained it. Its victories came from expert programming, immense computing power, and efficient search algorithms. While Deep Blue executed the moves, it lacked true intelligence or learning ability.

3.What implications do you think such digital assistants will have for people?

Google Duplex will be highly beneficial, especially for busy individuals like students. By automating simple tasks like making reservations, it saves time and assists people with disabilities or language barriers in interacting with businesses more easily.

What opportunities might it open for businesses?

For businesses, Google Duplex streamlines operations by automating scheduling, reducing the need for staff to answer calls constantly. It enhances customer service by minimizing wait times and making interactions more efficient.

Is Google Duplex narrow, general, or super AI? Explain.

Google Duplex is definitely Narrow AI. It's designed to handle very specific tasks like making phone calls, but it doesn't actually think or learn like humans. So, it's far from General AI, and definitely not Super AI it doesn't go beyond human intelligence yet.

What impressed you most in this demo?

The thing that stood out the most for me was how natural the voice sounded. It used to pause and fillers like "uhm," which made it feel like you were talking to an

actual person. The way it handled unexpected responses so smoothly was also pretty impressive it's clear AI is advancing in ways we can really use.

4.What does the author say about the importance of the Turing Test?

The Turing Test is important because it focuses on how a machine behaves, not just its intelligence. It challenges us to think about what makes humans different from machines and has helped push AI forward, especially in chatbots.

How is the Turing Test conducted?

A human judge converses with both AI and human participants through text. If the AI's responses are convincing enough to fool the judge, it passes the test..

What did Turing predict would happen by 2000? Did it happen in your opinion?

Turing predicted that by 2000, AI would trick 30% of people in short conversations. In my opinion, this hasn't quite happened yet. AI has gotten better but still struggles with more complex conversations.

What parts of Mitsuku's 2016 transcript resemble human conversation the most?

Mitsuku's conversation seemed human due to its smooth dialogue, humor, memory of past chats, and emotional responses—even though it didn't genuinely experience emotions.

Who was Eugene Goostman?

Eugene Goostman was a chatbot that pretended to be a 13-year-old Ukrainian boy. In 2014, it fooled 33% of judges, using its young persona to mask any awkward or unnatural replies.