Artificial Intelligence : The wave of the future

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All throughout the year in American Literature we have been studying different beliefs that influenced the writings of that time. Emerson and Thoreau were influenced by the ideas of transcendentalism, and by the same token Melville and Hawthorne practiced antitranscendentalism in their writings. With every belief there are people who will object to it, Artificial Intelligence is one of them. Many object it because they believe that only people have the right to think. Others are afraid that people might lose control of the machines, and they might end up destroying the world. As of yet engineers have not designed a computer that can really think.

> It took three hundred years to go from Newton's mechanics to Feynman's quantum electrodynamics, I think this problem is at least as hard as physics. So it could be a couple of hundred years before the machines are competing with us in general respects.[1]

This paper will develop the applications of Artificial Intelligence in the areas of business and military and space use. I will also try to expose the idea of Artificial Intelligence, and explain on how it will become an essential part of life in the near future. Marvin Minsky says, "I believe that we are on the threshold of an era that will be based on, and quite possibly dominated by the activity of intelligent problem - solving machines."[2]

Saving time and money are the two major concerns for modern businesses today. Many businesses, large and small, have considered Artificial Intelligence God's gift to the workplace. Within the business software, Artificial Intelligence is separated into two different catagories. The first is called Natural Language. This is when the computer replaces complicated commands with simple ones.[3] The second is defined as Expert systems. This is different from Natural Language, because the computer uses logical reasoning to solve ordinary business problems.[4] Corporations now see the Artificial Intelligence is a powerful force that they can utilize to run a more efficient workplace. Larry K. Geisel, President of Carnegic Group Inc., says, "We're packaging the decisionmaker and putting him on a desk as an advisor who won't screw up, it's white collar robotics."[5]

Campbell Soup Co., home of the ABC 123 Vegetable soup, had to deal with the loss of Aldo Cimino. He might not seem that important, but to the Campbell Soup he is considered priceless. He is retiring after 44 years of

dedicated work at the company, but because of new technology, Campbell Soup Co. will not suffer too much. The company is installing a computer that use his expertise of the tricky soup caldrons.

This is an perfect example of an innovating new concept, engineers taking knowledge from the professionals and putting it into expert systems. With this expert system anyone will be able to tap into the knowledge that took Aldo Cimino 44 years to acquire. This creates a more resourceful business, and that's what the companies want.

One of the more ingenious applications for Artificial Intelligence has been in the area of newspaper layout. Michael Stock, vice - president of Composition Systems, has piloted the designing of a program that will automate the layout of newspapers. He has traveled around the country, and talking to the pros about newspaper layouts. He needed to get the insights from the professionals, much like in the Campbell Soup example. The program had to be able to handle last minute changes with stories and advertisements. Mr. Stock found some tricks of the trade that only a professional would know. Mr. Stock said, "Don't print alcohol and cigarette ads on the same page, and don't carry a story about the company on the same

page as a story about the company." Presently a prototype system puts out a mythical newspaper call the Bunker Gazette.

Vision Systems is designing a personal computer expert system that helps clerks process workers' compensation claims for All - state Insurance Co. This will save the All - state millions of dollars, because they will be able to handle more clients now that the tedious work is handled. Another helpful system is call SimKit. SimKit is a $16,000 expert system that simulates a factory floor so planners can draw up the most efficient manufacturing schedules. The theory behind these two projects is why make mistakes if you don't have to.

Businesses are not the only ones interested in Artificial Intelligence. Anything that can make an army faster and stronger is going to interest the United States Military. Anything that is considered high - technology interests NASA. Both organizations strive for the latest line of equipment. The latest line of equipment deals with Artificial Intelligence, the wave of the future. Some of the pratical applications of Artificial Intelligence will be found in the military or the space program.

Have you ever been at a the Cleveland - Hopkins airport waiting for your friend to fly in, but unfortunately the plane

isn't allowed to land for 20 minutes because the runway is all booked up. Well have no fear, ATC is here. ATC, Air Traffic Control, is a system being designed to handle the scheduling of landing and takeoffs of planes.[15] It is not being used yet, but the ATC System Test is planned to be tested at Denver air traffic control center in 1988.[16] No more problems, no more hassels with airports again, except they could still lose your luggage.

is this a word? "inventive"

One of the more inventful applications of Artificial Intelligence is being done by the U.S. Navy. It's called the Pilot's Associate, and it is an intelligent co - pilot.[17] This system would essentially help the pilot fly the plane. "It will take into consideration what the pilot might forget."[18]

D.

like what? use specifics

transition needed

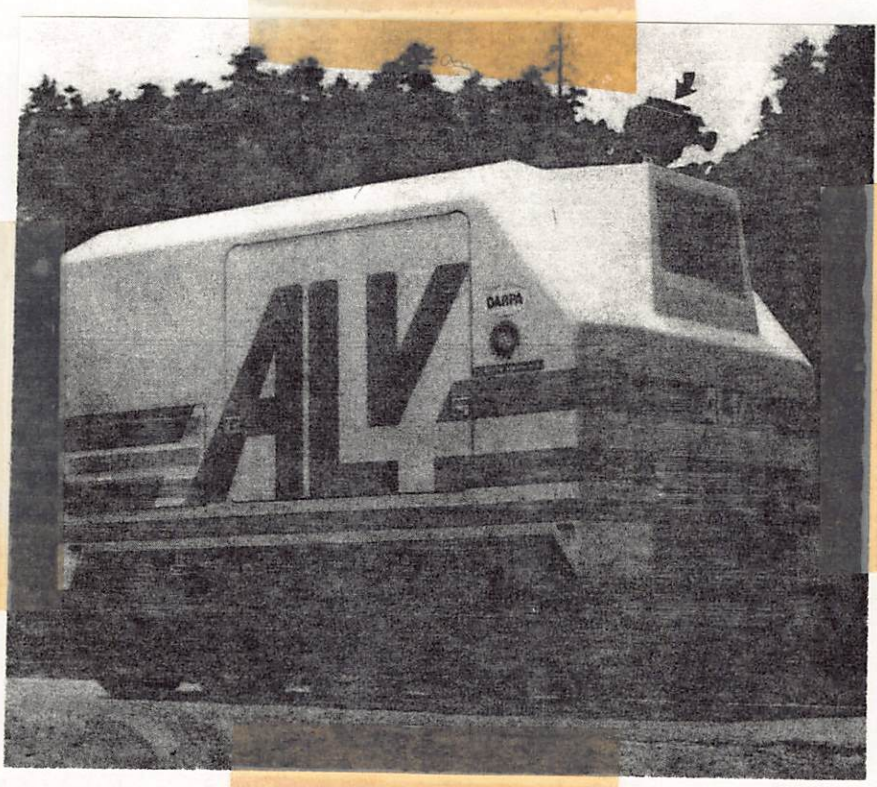
Artificial Intelligence has found a definite home at NASA in their creation of the U.S. space station. Artificial Intelligence technologies are being used in the automation of this space station. First of all, they are using A.I. to have the space station self-diagnose itself, and if problems do arise, then resolve them.[19] Secondly, to have the system to take information from its sensors, and be able to understand what they mean. NASA is also working on voice control rather than keyboard control.[20]

you really raised too many isolated examples making transitions impossible

"another example" is all you can do! How much better to have narrowed focus to ONE or two related examples and detailed them.

What really got the military excited ~~is~~ was the Autonomous Land Vehicle or ALV for short. It's a vehicle that drives itself, and it is guided by visual analysis and interpretation.[21] The vehicle travels about 10km/h at top speeds.

When the vehicle occasionally was unsure of the outer boundries of the road it was trying to follow it would slow down much like a human driver would when driving in a heavy snowstorm.[22]



[23]

The ALV works by using ~~a~~ the images from a color television camera and deciphering the images to determine which direction is should turn to stay on the asphalt road.

> One of intrinsic limitations of the color TV camera sensor is that it has difficulty in distinguishing between a dark shadow of a nearby tree that falls across the road and an actual tree.[24]

The ALV is scheduled in the near future to demonstrate its ability to navigate around obstacles placed on the road.

The number of applications for Artificial Intelligence are limitless. Many, ~~including myself,~~ are optimistic about Artificial Intelligence. The examples I have given clearly state how useful and cost-effective Artificial Intelligence really is. Many believe that Artificial Intelligence will never effect them, but it will. "By 1990, AI technology will be part of most all computer software."[25] Artificial Intelligence is the wave of the future.

> I believe that we are on the threshold of an era that will be based on, and quite possibly dominated by the activity of intelligent problem - solving machines.[26]

Endnotes

1
Fredrick Willis, "Will Machines ever be conscious?" Science Digest, October 1985, p. 43.

2
Jeremy Bernstein, Science Observed (New York: Basic Books Inc., 1982), p. 43.

3
David E. Whiteside, "Artificial Intelligence finally hits the Desktop", Business Week, June 9, 1986, p. 68.

4
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5
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6
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9
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14
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15
John Merrifield, "AI Research at Ames Focuses on Increased Crew Effectiveness", Aviation Week and Space Technology, June 2, 1986, p. 73.

16
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17
Kenneth Stein, "Researchers Channel AI Activities Toward Real-World Applications.", Aviation Week and Space Technology, February 17, 1986, p. 40.

18
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19
John Merrifield, "Ames readies intial AI demostration for space station", Aviation Week and Space Technology, May 26, 1986, p. 130.

20
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21
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23
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26
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