

Artificial Intelligence: Entering into A New World

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Abstract- In modern era, when human life is moving at high speeds there have been needs for machines which process the capability to perform functions that are normally associated with human intelligence. And AI is the intelligence of machines and the branch of computer science that aims to achieve it. The main point of artificial intelligence is the capabilities of the computer manipulate symbolic expressions that can represent all manner of things, including knowledge about the structure and function of objects and people in the world, beliefs and purposes, scientific theories, and the programs of action of the computer itself. The paper in detail achieves the application of AI in various fields in human existence. It also deals with the implications and consequences of the use of the AI technology. Artificial intelligence is primarily concerned with symbolic representations of knowledge and heuristic methods of reasoning that is, using common assumptions and rules of thumb. Two examples of problems studied in artificial intelligence are planning how a robot, or person, might assemble a complicated device, or move from one place to another; and diagnosing the nature of a person's disease, or of a machine's malfunction, from the observable manifestations of the problem. The field of robotics is closely related to AI. Intelligence is required for robots to be able to handle such tasks as object manipulation and navigation, with sub-programs of localization(knowing where you are), mapping (learning what is around you) and motion planning (figuring out how to get there). The paper is an attempt to explore new arenas in the field of AI and comparing and contrasting its application to human life.

Keywords – NLP, MYCIN, EMI, COGNATIVE PSYCHOLOGY, HELP

I. INTRODUCTION

Artificial + Intelligence = Artificial Intelligence

Artificial means something that is not natural but is made by human skills or produced by the humans. Intelligence is the ability to think, to imagine, creating, memorizing, and understanding, recognizing patterns, making choices, adapting to change and learn from experience. So, the machine which is produced by humans and which is able to learn, to speak, to think, to imagine in the way that a human or animal do is Artificial Intelligence. To create an AI, it must delve deeper how the human brain works is? The basic aim of AI is to build a silicon-based electronic network that is modeled on the working and form of the living things (human/animal)with their behavior – understanding language, learning, reasoning, solving problems, and so no. This is just like a mimic of the structure and functioning of the human/animal. AI associates with computer science, philosophy, mathematics, computation, psychology/cognitive science, biology/neuroscience. Natural language processing (NLP) refers to artificial intelligence methods of communicating with a computer in a natural language like English. AI technology used in many novel applications, ranging from banking systems that detect attempted credit card fraud, to telephone systems that understand speech, to software systems that notice when you're having problems and offer appropriate advice. Artificial Intelligence is a branch of Science which deals with helping machines finds solutions to complex problems in a more human-like fashion.

II. IN HEALTH SECTOR

The beneficial use of the expert system in the health sector. MYCIN was an early expert system that used artificial intelligence to identify bacteria causing severe infections, such as bacteremia and meningitis, and to recommend antibiotics, with the dosage adjusted for patient's body weight the name derived from the antibiotics themselves, as many antibiotics have the suffix – “mycin”. The mycin system was also used for the diagnosis of blood clotting diseases. AIC or “Antibiotic Computer Consultant “and it was part of HELP (Health Evaluation through Logical Processing). The role of AIC was to help doctors determine proper antibiotic treatment for specific patients. One such attempt to build the humanoid robots is made by the MIT research people by introducing their own humanoid robot called as Kismet. It explores the role of emotive responses in communicative behavior between robots and humans naive semantics (NS), which is commonsense knowledge associated. Naive semantics identifies words with concepts, which vary in type with words.

III. IN DEFENSE SECTOR

The aim of the aptitude tests applied in the Army is to predict the expected performance; the category of predictive validity expresses the extent of this performance. The tests can focus on the exploration of performance, skills or abilities, the last being the easiest factor to measure in practice. The expert systems are computer programs which can apply the definable rules of the problem solving strategy of human experts to solve certain specified tasks. ExsysCorvid Knowledge Automation expert systems interact with users to offer answers whenever needed. Far better than search or FAQs, they provide precise, reasoned situation-specific advice based on the knowledge of top experts.

IV. IN BANKING SECTOR

Banks use artificial intelligence systems to organize operations, invest in stocks, and manage properties. Customer support systems or automated online assistants assist financial services customers with services such as checking an account balance, signing up for a new credit card or retrieving a forgotten password. Financial institutions had a problem with fraud, specifically fraudulent use of debit cards at automated teller machines and sales counters. And, like other financial institutions, Security Pacific discovered that fighting the problem by trying to recover losses was far less effective than preventing fraud in the place. Turnkey expert systems, which often employ a generic representation of knowledge, do not have good track records in the financial services industry, where companies rely more heavily on their own knowledge of markets and systems.

V. IN ONLINE CUSTOMER CARE SERVICES

The big challenge in customer service is making customers happier. There are many different types of problems customers might face at any given moment. To solve the customer care challenge and create a smart solution, one has to offer a Multicare solution (AI technologies) to provide a new, faster, and simpler user interface in mobile apps and on the Web. Multicare solution is a new generation of self-organizing, self-service support is being powered by Artificial Intelligence (AI). Just as a real person in a call center can handle many types of problems and test several methods of solving a problem fast, a smart customer care solution needs to be able to do the same. Instead of experiencing long waiting times or punching ill-fitting selections with dial-pad numbers, customers can immediately begin a digital but verbal interaction with the virtual assistant, which can answer questions. AI technology, is able to mimic a customer care agent with services like virtual assistants, humanlike recommendations, and high precision search. The AI technology is an incredible asset for customer relationship management and customer care solutions.

VI. IN ARTS

AI in art is something total opposite where art has the ability to think and act accordingly. Even though there aren't much to compare with general machine intelligence, art has the ability to take anything to a different level in its own way. An application that can create an art piece according to the decision made by the user such as EMI, AARON etc. This application opens the door for an art piece to think and react accordingly to user input. An Experiment in Musical Intelligence (EMI) is a software system that analyzes existing music, and then generates original compositions in the same style. What's more, such advances aren't limited to musical arrangements. In 2008, the Russian publishing house Astrel SPb released True Love, a 320-page novel written in 72 hours by a computer program. And the Tate Gallery, SFMOMA and the Brooklyn Museum are among the institutions that have exhibited paintings made by AARON, an autonomous art-making program created by Harold Cohen.

VI. IN PSYCHOLOGY

AI has developed increasingly more sophisticated techniques for exploring computational theories. Meanwhile, Psychology has focused on the role of cognition in behavior (Cognitive Psychology). Cognitive psychology is the branch of psychology that studies mental processes including how people think, perceive, remember process, learn, and store information. There are numerous practical applications for cognitive research, such as improving memory, increasing decision-making accuracy and structuring educational curricula to enhance learning. Increasingly researchers are seeking both to develop AI technology hand in hand with their increasing understanding about the psychological processes at work in human behavior, and to use the insights gained from computationally modeling intelligent processes to provide ever more sophisticated theories of cognitive processing.

VII. IN GAMES

Artificial Intelligence applications are being implemented in games to produce the illusionary effect of intelligence augmentation in order to give the player a good game play experience. Game AI is used to create exciting playing strategies which keep the players focused and interested in the game. AI in gaming covers a wide area of AI technologies including path finding, neural networks, finite state machines, rule systems, human behavioral modeling and many more. There are various techniques used in AI-engines in games designs such as finite state machines, Minimax Trees and Alpha-Beta Pruning, fuzzy logic, genetic algorithms, neural networking path finding, rule systems, human behavioral modeling, sample code and many more. AI techniques will include features like real-time interrogation of suspects, dynamic movement, and richness of behavior in game design which increase the interaction between creatures and their environment, no longer separated from the consequence of their own actions. There are different types of games included in AI technology such as action, adventure, role playing strategy, simulation, team sports etc.

VIII. THE EXPERT SYSTEMS

The expert systems typically consist of a knowledge base (symbolic representation of the knowledge of the world), a “conclusion machine” (component to manage rule sand recognize correlations) and a user interface (computer program).The benefits of the expert systems include reproducibility, objectiveness, unlimited knowledge representation capacity and transparent conclusion strategy; the limitations mainly include the lack of “common sense”, creativity and the problems of the recognition of its own limits of competence.

IX. IN GLOBAL TRADES

Artificial intelligence to commerce is likely to make trade and logistics more efficient. Trading systems such as stock markets use Artificial Intelligence to take buy and sell decisions. Artificial Intelligence is already widely used in the largest and most complex global logistics systems, such as those operated by Tankers International and UPS. Another driving force behind its application to logistics is the interest of the US military in optimizing its extensive operations around the world, and especially in the Middle East. The online “agents” which are given clear parameters within which to work is a key area of AI research which has much to offer to logistics. There is already a strong precedent for the use of AI systems in logistics with the spread of web-based services. Utilities, banks and other services are already dependent upon the web, even though major decisions are taken by people. The future web will be able to support more independent agents which can take decisions on behalf of humans.

x.CONCLUSION

Artificial intelligence is already very much a part of everyday life in industrialized nations. AI is helping people in every field make better use of information to work smarter, not harder. New applications of AI, which include Intelligent Agents, are providing new areas of research. AI holds the promise of overcoming the difficulties and playing a major role in the widespread promulgation of new services. AI-driven customer care solutions can positively affect the bottom line, make customers happy, and free up the organization to higher-level objectives. AI systems have no sentient intentions to make art, or anything else. Therefore, the works they create are not art, although they could be considered as such if a human had made them. New advances in AI are opening a door to new game genres and even new game paradigms.

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