

ARTIFICIAL INTELLIGENT

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1. INTRODUCTION

I have chosen this topic to spotlight on one of the most technological trend these days known as AI (Artificial Intelligent). Therefore; I will discuss some of the most important aspects related to AI in which it will help in a better understanding of Artificial Intelligent and both its advantages and disadvantages to be able to protect ourselves from the upcoming technological trend. This paper will also discuss some of the algorithms used in AI systems

2. AI ALGORITHMS AND MODELS

AI is mainly based on algorithms and models as a technique which is designed based on scientific findings such as math, statistics, and biology (Li& Jiang, (n.d.)). AI works based on several models such as: Ant Colony Algorithm, Immune Algorithm, Fuzzy Algorithm, Decision Tree, Genetic Algorithm, Particle Swarm Algorithm, Neural Network, Deep Learning and in this report, I will discuss some of the most known models which are: Support Vector Machine, and the Artificial Neural Network.

Support Vector Machine (SVM) where it is used to build a classification model by finding an optimal hyperplane based on a set of training examples as shown in (figure A-1). It is also have been used for pattern classification and trend prediction lots of applications for instance: power transformer fault diagnosis, disease diagnosis and treatment optimization. (Li& Jiang, (n.d.)).

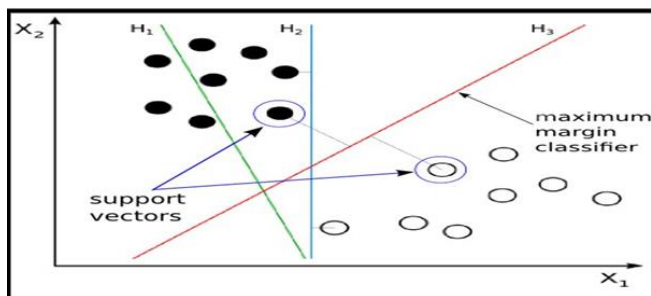


Figure A-1 Describes how SVM algorithm being represented in AI

Artificial Neural Network (ANN) is a representative model of understanding thoughts and behaviors in terms of physical connection between neurons. ANN has been used to solve variety of problems through enabling the machine to build

mathematical models to be able to imitate natural activities from brains perspective as shown in (figure A- 2). By using this algorithm, the machine will be able to identify the solution of any problem just like human's brain.

Some applications on artificial intelligence

AI can be designed using lots of algorithms. These algorithms help the system to determine the expected response which will basically tell the computer what to expect and work accordingly. Here are some of the greatest AI applications that we are probably using in our daily life without knowing:

- Voice recognition
- Virtual agents:
- Machine learning platform
- Ai optimized hardware
- Decision management
- Deep learning platform
- Bio matters
- Robotic process automation
- Text analytics and NLP
- Adaptive Manufacturing:
- Machines those are "able to learn a multitude of tasks from demonstrations, just like their human counterparts can." ("Yoa",2017)

3. AI DESIGN MODELS

AI application are a lot around us and in this paper, I will discuss some of the most common application of AI that we always use nowadays which is Virtual Assistants such as Siri, Cortana...etc. Over the past few years smart assistants are becoming a very common technology in most of the smart devices and most importantly, that these assistants are getting smarter than ever. In addition to the awesome help they provide us with, is that every one of these apps has unique features. Artificial Intelligence works according to the following phases: getting the data, clean/manipulate/ prepare the data, train model, test data, and improve the data as mentioned in (figure A-3). Before accessing the data, a business must verify the quality of the data to ensure that it meets the requirement.

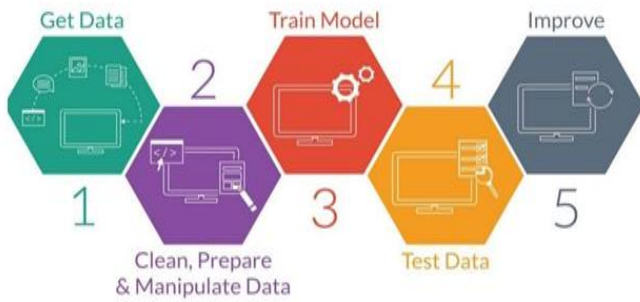


Figure A- 3 Describes Phases of Developing Artificial

Siri Virtual Assistant

Siri is the well-known virtual assistant which uses voice recognitions and typed command in order to perform a certain task within a device. Siri is considered one of AI most used applications. The application simply takes the input from the user such as (e.g. Call dad) and try to find the most related keywords used in this command. Siri tries to eliminate inconsistent result through using the language pattern recognizer and from there to active ontology by searching through the contacts, then it tries to relate the contact named “Dad” and perform the task which is in this case is “Calling” and finally the output of this action will be “calling dad” and to consider all the possible situations refer to (figure A-4).

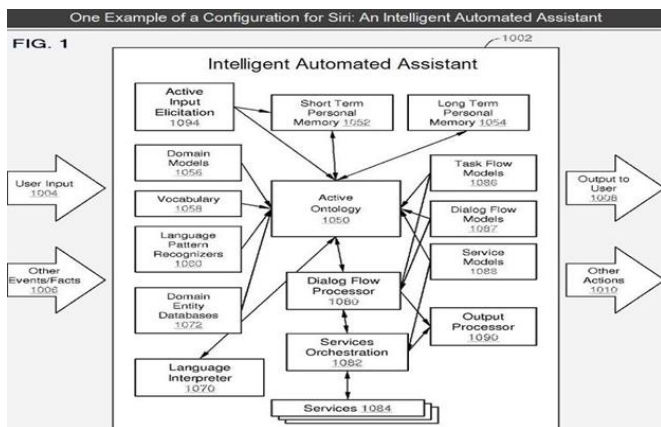


Figure A- 3 Describes one Example of configuration for Siri

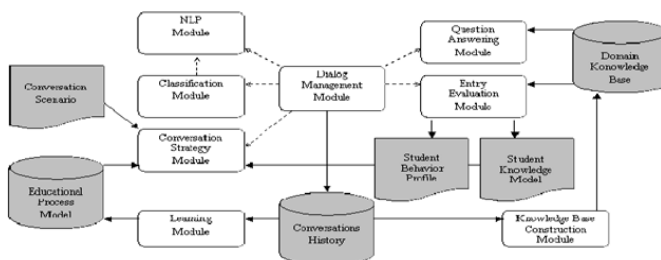


Figure A-5 Describes Proposed conversational agent

4. CONCLUSION

AI nowadays is being implemented in almost every field of study through several models such as SVM and ANN. We should be able to proceed with knowing and understanding the consequences of every technological trend. In my opinion, we are in the AI revelation era and therefore; we should adopt into this change and welcome it too by embracing AI and moving toward a better society.

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