

READING PROCESS WORKSHEET

GED0001

NAME: Andrie Detera SECTION: TX05

TEXT TITLE: Artificial Intelligence and COVID-19: Deep Learning Approaches for Diagnosis and Treatment DATE: 0/3/21/24

TEXT TYPE: Scientific Text AUTHOR: Jamshidi, M. B. et al.

I. PRE-READING (10 POINTS)

A. Complete the table with the headings, subheadings, and visual titles/descriptions from the text.
Provide at least 2 entries for each column.

Headings	Subheadings	Title/Description of Visuals
<ul style="list-style-type: none">• ABSTRACT• INTRODUCTION• ARTIFICIAL INTELLIGENCE AND COVID-19• THE POSSIBLE PLATFORM TO ACCELERATE CONVENTIONAL METHODS• DISCUSSION• CONCLUSION		<p>FIGURE 1. The process of application of AI-based methods to conquer challenges associated with COVID-19</p> <p>FIGURE 2. Application of AI-based methods in classification, analysis and improvement of the medical imaging approaches.</p> <p>FIGURE 3. An ELM model to predict suitable drugs based on the performed studied in [29].</p> <p>FIGURE 4. Classifying the best treatment method with high precision through LSTM ANN a developed method inspired by [35].</p> <p>FIGURE 5. Prediction of spreading the infection by Recurrent Neural Network (GRURNN, Clockwork RNN or CW-RNN)) which is a developed approach based on [45].</p> <p>FIGURE 6. Application of Generative Adversarial Network (GAN) for visualization and detection of new human Coronavirus based on the results of [55].</p> <p>FIGURE 7. Estimation of cardiac involvement caused by the virus infection extracted from The</p>

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		<p>features from Tesla cardiac magnetic resonance imaging and the information given in [64].</p> <p>FIGURE 8. Estimation of Remdesivir drug behavior on the patient's treatments, hospital stay, ICU stay and symptomatic period using ELM and the ideas of [66].</p> <p>FIGURE 9. The process of viral gastrointestinal infection probability estimation using a combination of GAN and rRT-PCR testing for SARS-CoV-2 from feces to determine the transmission-based precautions for hospitalized SARS-CoV-2 inspired by [68].</p>
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B. Fill the table with information that you already know about the topic (K), you wonder about the topic (W), and you will learn after reading the text (L). Fill the L Column after reading the text. Provide at least 2 entries for each column.

K	W	L
<ul style="list-style-type: none"> COVID-19 is a disease caused by the virus SARS-CoV-2 It was first reported in Wuhan, China One of the symptoms of COVID-19 is the lost of taste and/or smell COVID-19 cost a worldwide pandemic 	<ul style="list-style-type: none"> What can AI do to help diagnose symptoms of COVID-19 What can technology do to stop the spread of COVID-19 How can AI help in controlling and stop the spreading of COVID-19 	<ul style="list-style-type: none"> The article discusses different techniques using AI-based techniques The Paper mentions the use of RNN, LSTM, GAN, and ELM as AI based methods to analyze COVID 19 Problems.

II. READING (30 POINTS)

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- A. Fill the table with specific details from the text and inferences that can be drawn from it. Provide at least 2 entries for each column.

Details from the Text	Plausible Inferences
AI could be extensively applied for COVID-19; however, we aim at finding the best possible solutions COVID-19 related issues that have put the biggest challenges ahead of health care systems.	The text implies AI or Artificial Intelligence can be applied to deal with COVID-19 but the authors' plan is to find the best possible solutions for COVID-19.
Determining appropriate approaches to reach solutions for the COVID-19 related problems have received a great deal of attention. However, another huge problem that researchers and decision-makers have to deal with is the ever-increasing volume of the data, known as big data, that challenges them in the process of fighting against the virus.	The text tells us, the readers, that finding solutions for COVID-19 is very important for the medical field, but the continuously growing data poses a challenge to the researchers as it gets harder and harder to process all the data as time goes on.

- B. Figure out the meaning of the technical term from the text. Write the technical term, indicate the clue from the text, and use the term in your own sentence. Provide at least 2 entries for each column.

Technical Term	Context Clue (i.e., antonym, synonym, examples, description, word parts, definition or any clues in the text)	Use each technical term in a sentence

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1. Artificial Intelligence or A.I.	Solving complex issues in numbers	A.I. in the future can excel in solving different unsolved equations of the Universe
2. COVID-19	Claiming thousands of lives	COVID-19 has put the whole world into a global pandemic.
3. Clinical data	Chronic medical illness or history of chronic medical illness	Clinical Data is important in monitoring the health of patient.
4. Medical Imaging	Imaging processing techniques	Medical Imaging is used by doctors to see different parts of the body for diagnosis.

C. Supply the missing information below:

1. Topic of the text:
 - How AI can be used for diagnosis and treatment of COVID-19
2. Writer's opinion about the text's topic:
 - COVID-19 poses a significant challenge to the world's public health and economies. The proposed AI methods in combating the virus can be a testament to the innovative minds of our people. This tool promises to enhance the speed and accuracy of diagnosis.
3. Support for writer's opinion (e.g., evidence such as facts, testimonies, examples, etc.):
 - a. "Due to COVID-19's spread in 212 countries and territories and increasing numbers of infected cases and death tolls mounting to 5,212,172 and 334,915 (as of May 22 2020), it remains a real threat to the public health system."
 - b. "With the recent popularity of AI application in clinical contexts, it can play an important role in reducing the number of undesired deletions as well as improving the productivity and efficiency in studies where large samples are involved [16], and higher degrees of accuracy in prediction and diagnosis are intended [17]."
 - c. "Appropriating AI techniques to deal with COVID-19 related issues can fill the void between AI-based methods and medical approaches and treatments."

III. POST-READING (10 POINTS)

A. Answer the following rhetorical analysis guide questions.

1. What credentials does the author have which give him/her the authority to write about the topic of the text?

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- The researchers have different backgrounds and degrees of intellectual capacity in Electromechanical Engineering, Electrical Engineering, Medical Science Research Centers, and Medical Biology Research Center to name a few.
2. After considering the author's profession and affiliation, what possible biases the author might have about the topic?
 - Due to the majority of the researchers or authors coming from the engineering and other non-medical science fields, the medical aspect of the paper might have been taken more lightly than the technical aspect of it.
3. What is the purpose of the text, and how does the author accomplish that purpose? What evidence does the author use to support the main idea in the text?
 - The authors' purpose is to provide insight into how AI solves the long-term issue of COVID-19, the researchers use different AI-based platforms and showcase different illustrations to use to reach their goals. The author uses an estimation of different AI-based platforms.
4. What specific idea/information in the text challenges or surprises you? Why?
 - The whole AI thing can actually help in monitoring COVID-19 symptoms, as I thought AI cannot replace human in the field of medicine.
5. Is the style of writing suitable for the intended audience? Is it too formal or too casual? Why?
 - As a scientific paper, I think the paper is formal enough for its own sake and easy enough to be understood by people who are in the same field of expertise, but not for regular or non-professional readers.