

# Machine Learning and Web based e-Learning Platform for Primary School Students

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DOI: <https://doi.org/10.26438/ijcse/v10i11.2734> | Available online at: [www.ijcseonline.org](http://www.ijcseonline.org)

Received: 17/Oct/2022, Accepted: 03/Nov/2022, Published: 30/Nov/2022

**Abstract**— Covid – 19 pandemics prevent most elementary school pupils from attending and studying on school. According to Covid 19 standards and laws, schools began working online. It's a great chance for kids to finish school properly. This concept discusses how students might train based on personal performances in a methodical way. Personal training for students based on performance research will use prior session data to help students improve their understanding. This section examines studies on online classroom activities. It may be a puzzle, short questions, game, or other activity that helps evaluate student performance. This internet app will record and schedule activities. This exercise helps students learn. A technique for reporting children's activities analyzes all preceding experiences. It incorporates all three research components to help students grasp their level. The other three research components will also receive this information. This research component will inform the other components' questions and structures. Depending on their current talents and activity package, a system can map children's future competencies. New analysis based on profile and other activity. Haggles and other internet data will be merged with machine learning and NLU to analyze matching (NLU). Artificial intelligence will prompt messages and offer message flows, dialogue, and other activities to expand a child's knowledge. To begin, numerous activities, their effect levels, and their impact on a child's knowledge will be investigated. This will allow you to communicate with primary children and provide positive feedback to help them enhance their knowledge. By reading students' facial expressions, attentiveness, and impressions of the topic module, you may establish a good learning environment. This study will train a model using a set of student photographs with diverse expressions and information to predict and interpret facial attention levels and other expressions.

**Keywords**—analysis, NLU, artificial intelligence

## I. INTRODUCTION

Even while smart classes for elementary school pupils have only been available for a short period of time, there is already evidence that they are successful. An online platform is yet another sort of intellectual community that has been developed with the intention of fostering the same culture. Learning more about the internet, which is used by everyone who participates in online classes, has the potential to take education to new heights. E-learning is one of the newest and most cutting-edge modes of educational delivery, and it is one of the most efficient platforms. As a result of the pandemic condition caused by COVID 19, it is gaining more and more popularity, and it is also one of the simplest and most practical approaches that can be used to cover the entire syllabus. Every parent wants the most bang for their buck when it comes to the money they spend on their kids. There is an abundance of scholastic material available online, and students can easily gain access to any and all lessons. Students prefer online programs, which have recently become available at a growing number of schools and universities. They are able to devote more of their attention to their studies because they spend less time traveling.

Several Sri Lankan schools use conventional teaching and learning methods. After the teacher teaches the lessons, the students are given exam questions to assess how well they've mastered them and their level of knowledge based on their grades. As technology progresses, the world's most popular e-learning platforms are gaining appeal in the U.S. Such platforms helped improve and fix the current educational system. The study does not focus on whether existing e-learning platforms can be used directly by all students. Primary school children lack the expertise to use such platforms, and the interface isn't designed for them. Primary school children enjoy playing games, thus, game-based e-learning is the greatest way to promote it. Many game-based e-learning platforms only provide pre-designed, self-scoring games. The instructor or platform user lacks complete control over instructional questions and other game components. This is a major drawback of the platform. Teachers and parents must know if the platform guided their children to school. It's the capacity to measure children's knowledge, problem-solving, and accomplishment levels.

Predicting student success is an important area, according to educational data mining (EDM) and learning analytics (LA). It has gotten increasingly difficult in the face of ever-

increasing data volumes. EDM and LA are closely related topics that try to help with the study of educational data. It is possible to obtain, handle, and analyze educational data with the use of these tools and methodologies when used together. When it comes to uncovering previously unseen patterns in historical data, data mining, machine learning, and statistical analysis techniques are frequently employed [1]. Because of time constraints, teachers may not be able to answer all of the students' questions, and the teacher may not be able to see whether a student is asking a question owing to technical difficulties and loss of connection while using e-learning platforms, which benefits students in other ways.

When compared to the other factors, students' devotion to their studies in their respective online classrooms is the one that bears the most weight. It is for this reason that the decision was made to implement this form of software. The implementation of e-learning in educational settings confers a plethora of favorable outcomes and advantages. Students, for instance, are now able to gain access to any and every data that they may require for the research that they intend to conduct. They now have the opportunity to globalize their careers, meet coworkers from all over the world, as well as learn new languages. Students are able to participate in online versions of classes that they were unable to physically attend in person due to factors such as a lack of financial resources, a significant geographic distance, or a shortage of free time [2]. However, the purpose for establishing this web application is owing to the fact that teachers are unable to cover their curriculum because of the COVID 19 pandemic condition. Children are unable to advance without first successfully completing the necessary tests. They are able to cover everything within the confines of an online environment by maintaining their level of concentration. Within the context of a normal online educational setting, our web application makes use of facial emotion analysis and video to investigate the levels of attentiveness exhibited by students. As a result, in order to arrive at a concentration level scale, you should make it your goal to generate the emotional impact of that concentration level based on the analysis you just did.

Because of this, academics have begun developing ML-based models in order to forecast how well students would succeed in online classrooms. The purpose of the study that is presented in this paper is to investigate the ways in which a dataset that was compiled with the use of a digital electronics education and design suite may be utilized to forecast how well students would perform in a number of online interactive sessions. The outcomes of the many exams, puzzles, and quizzes are included in the data that was acquired. The performance of each student is evaluated by looking at their aggregated marks and scores, and this evaluation is also displayed on each student's profile [1]. It gives in terms of dropouts and learning outcome achievement, many primary educational schools in Sri Lanka have not concentrated on predicting student performance. This type of information could be helpful to schools in making adjustments to the way students study or

implementing new e-learning management platforms in order to provide students with additional possibilities to learn. The amount of data that is generated during the process of learning has increased to the point where sophisticated and intelligent methods of data management and analysis are required [3]. This is due to the widespread use of e-learning management platforms and course learning platforms in the learning process.

## II. LITERATURE REVIEW

This virtual education system is one of the most effective ways to boost a child's performance and productivity, and it promotes the live educational system. This increases and promotes a child's exposure to the digital world from an early age, and as a result, they begin to discover new concepts about innovation and seek to better their specialized abilities. Even though the issue is activity-based, the child may be involved, and there are incentives for that child to start producing games and storyboards since all learning is online.

Students learn variables, loops, and conditionals while programming [4]. Through project-based learning, these activities could be integrated into the primary curriculum in math, language, arts, technology, and social science. Because programming requires abstract notions, teachers and students find it difficult. Scratch's [6], developers believe a pleasurable, substantial, and social programming language may support numerous projects. Papert (1980) proposed that computer languages should have a "low floor" (complex projects).

We will outline and provide the most recent research on CNN in digital image processing in this part. Every person has a facial expression that conveys their emotional state. In numerous domains, including robotics, medicine, unmanned aerial vehicles, and lie detectors, the facial expression can be used as a variety of tools.

The following facial expressions are based on knowledge: anger, fear, happiness, sadness, disgust, neutral, and surprise. we divided it into two sections [1]. The first step is to remove the background from the photos, and the second step focuses on the element of image processing called vector extraction. They utilized the monitoring information from the 10,000-images and 154 faces, too. The findings indicate that, when employing an expressional model with 24 values, the accuracy is approximately 96%. In their paper, Cohn-Kanade, Caltech, CMU, and NIST face data storage are used if more than 750k dataset of photos are used [1].

The other study by Liliana focused on recognizing the occurrence of face Action Units (AUs), a component of FACS that displays human emotion, in the present-day facial expression [2]. To demonstrate if CNN was extremely good in reducing overfitting, they utilized a regularization technique known as "dropout."

In their investigation, the Cohn Kanade (CK+) data set was utilized. The outcomes thereafter become generally accurate.

At a 92,81% rate. Eight emotion classes were used to categorize the dataset's visual data. We will also discuss a recent study by Zeynab and his team's research. The research suggests using CNN, which classifies facial expressions according to five main facial emotions using data from the Cohn-Kanade and RAVDESS datasets. They note that despite having few brain layers and not being trained, their model's uniqueness performed admirably for both datasets [3]. With the addition of pooling and dropout layers, the model has outperformed convolutional layers. The findings of their study suggested a reliable method for identifying macro-facial emotions in the dataset.

Scratch's programming environment and language are easy to learn (users can start programming in 15 minutes) and complicated enough to keep users interested for years [5]. Scratch was the kids' favorite program. Scratch promotes innovation and multimedia content platforms. Scratch allows children to learn to program using a graphical and intelligible language by using colored blocks and instructions. The Scratch programming framework helps users build software development presumptions when designing projects.

There are many different options for the construction of digital board games available on the market today, such as mobile and desktop applications. The solution includes a variety of advanced capabilities, such as game design, object tracking, and collaborative settings, amongst others. Tabletopia is an example of one of them, and it is software for an online multiplayer board game. Both Microsoft Windows and Apple's Mac OS X are supported. It comes with a one-of-a-kind editor that lets you create new games from scratch without the need to know how to code, so you can get started right away [7]. Computerized game installation, card rolling and coping, player movement and battle markings monitoring, and a number of other electronic operations are only some of the computerized features that are offered. As a simple means, it has evolved into a sophisticated platform for playing digital board games.

The chess software served as the basis for the game algorithm in this research study conducted by Chess.com, which can be downloaded for free on Android devices. In this age of technology, where applications that have more realistic visuals tend to win out over board games, the transition from board games to apps needs to coincide with the technology that is already available. Board Goolee, Field Goolee, and Bigboards 1995, 2003, and 2010 saw the publication of the first three Goolee games, which were collectively referred to as Goolee. GOOLEE is a game that can be used to improve higher-order thinking skills, as well as problem-solving and training abilities. In Malay, the word "goolee" is pronounced "guli," and it refers to a game that can be played with a knob, a button, or a string of

beads. The applications element is responsible for moving the Goolee in the allotted amount of time while maintaining precision and always staying on course [8].

Voice-based assistants are included in the category of virtual assistants, which are also sometimes referred to as Intelligent Personal Assistants. Inputs in the form of text, audio, and even images can all be accepted by virtual assistants. Voice-Based Assistants are a type of virtual assistant that help users through the utilization of speech recognition, natural language processing, and speech synthesis. If a piece of technology is going to be referred to as a voice assistant, then the voice must be the primary means of input for it [10]. Voice assistants should be able to speak with children in a natural two-way manner, verifying, clarifying, and answering inquiries in the context in order to be effective with this age group [9]. It is our goal to develop our web application for elementary school students so that it can recognize the voices of young children. Artificial intelligence technologies will also be utilized in the training of the model that is ultimately chosen. Based on the findings of another research report, voice assistants, due to their ability to understand natural language and their user-friendliness, have a promising future in the field of education across all age groups. Voice assistants, whether they come in the form of a handheld mobile device or a speaker assistant, are becoming increasingly popular among young people and students in schools [11]. A recent survey of 1,038 People in the United States that was carried out by Coupon Follows to investigate the use of voice assistants for online e-learning found that Amazon Alexa is by far the most popular voice assistant for learning, with 72 percent of respondents using it. The survey was carried out to investigate the use of voice assistants for online e-learning. This mobile application is similarly based on our concept; however, the main distinction is that we are suggesting a web application with the target audience being young children [12].

The ends of the brows, the tip of the nose, and the lips are all examples of facial landmarks. Methods for recognizing facial landmarks can be divided into three categories based on model creation. Research on facial expression recognition using visual input during the previous few decades is reviewed. Traditional methods are reviewed, with a run-down of the most prevalent system categories and their key algorithmic approaches [13]. It's possible to combine convolutional neural networks for spatial features of a single frame with long short-term memory to store temporal data from subsequent frames, as well as other methodologies like deep learning and deep hybrid learning. Also included are some publicly available evaluation metrics and results of a comparison to another comparison. Non-concentration was described in this study as "the position of the closed eye, the opened mouth, the lowered face, the turned face, and facial indicators of emotion.". If the length value of the eyes exceeds the criteria value, the student's eye is closed, which indicates that he or she isn't paying attention, according to the authors [14]. Another

study used gaze tracking to examine how children learn while seated in front of computers. This data is used to construct a learning status. They may be able to tell us something about how well a teacher is doing in the classroom. Idle, scanning and seeking are the three most common eye activities during the cognitive process of learning [15].

### III. RESEARCH OBJECTIVES

The primary objective of this research is to design, develop, and evaluate an all-encompassing e-learning solution that is based on machine learning and incorporates education and learning analytics for teachers as well as game enactment for students with analytics, with the focus being on the primary education sector.

1. The children's concentration level and attitude will be used to generate activities to evaluate their progress level. These are used to enhance the understanding of students as well as they can study to improve their knowledge after measuring their performance levels. Questions, quizzes, and games, among other things. Personal training for children based on performance research is the end consequence of online classroom instruction. It evaluates student understanding by presenting questions, puzzles, fill-in-the-blanks, etc., based on taught lessons. Creating lesson-specific questions. The teacher can see how the student studied the material. Because everything is online, the questions should be appealing and easy to grasp. Creating student-morale-boosting games. If a student passes each level, it's a good time to do their homework and finish the game. So, the student's knowledge and interest in learning increase systematically.

2. The user evaluation based on prior activities research component's major goal is to measure the impact on students' knowledge levels by creating a student profile for each student and using the outcomes of other research components' activities (exams, tests, quizzes, puzzles, etc.) to map the students' future capacities. The activities done in the other research component are taken as the main input to analyze the students' knowledge based on the lessons done in the previous online classroom. This is used to test the knowledge of the children. The results of the quizzes, puzzles, and games can be considered the output of the other research component. This research component used dummy data set to train the model to get accuracies to train the data set. After integrating the other and fourth research components, all the dummy data will be deleted. Creating a student profile for each student to display results with the submitted answer sheet. Parents also can view their children's progress in order to get an idea about how their children's schoolwork is going on. All the result is displayed in the student profile to utilize the progress level of the student step by step. Creating an average level of the student tests and finding which level the students belong to and how the next step can be taken to reach the next level in the progress bar. Parents also can view the progress of their children and discuss their issues with the class teacher.

3. According to the voice assistance based on the student research component's emphasis level, the major goal is to construct a voice assistant that will be used to chat with students, answer their questions, and determine whether they are dissatisfied by analyzing their answers. Creating a student voice assistant. A classroom could have over 40 kids at once. When most youngsters have teacher questions, it's hard to address them. Virtually, it's impossible to answer all questions at once. A voice assistant is designed to help teachers do their jobs more efficiently. Train the voice assistant with common student questions. Most pupils will get the same voice assistant answers. The system is built using the trained data set. The acquired data sets train the data to recognize student inquiries. If the algorithm can't detect pupils' inquiries, it displays a hilarious message to distract them.

4. The main objective of the focus detection based on the image capturing research component is to use facial recognition, determine the students' concentration level and report it to the components to ensure it. It is too hard to keep primary students' concentration on the lesson while teaching. In the online platform, it is more difficult to do because all the students and teachers have to interact via a virtual environment. All pupils must turn on the cameras. Initiate the monitoring environment. Facial recognition can detect a student's classroom behavior. The camera will detect any unwanted conduct, such as a pupil napping or eating during class. The suggested system displays messages based on student behavior. If a student feels drowsy, it will tell him a joke. If a student eats during a lesson, the system will remind them to focus. If a pupil is misbehaving, the system will alert the teacher. All these messages focus students on the lesson. The system records undesirable classroom behavior. The teacher might warn the student after class because blaming the student during an online session is a waste of time.

### IV. RESEARCH METHODOLOGY

We use the basic emotion in facial emotion recognition and classified into 7 class of expression, namely angry, disgust, fear, happy, sad, surprise, as well as neutral. Furthermore, we use CNN to recognize different expressions or emotions. In fig 1 determine much facial emotion based on dataset FER2013.

A machine learning-based e-learning system for primary school pupils was the focus of this application. According to the available research, the educational sector has experienced a reduction in competency and value throughout time, which has been shown in the available studies. It's one of the qualities of e-Learning that has made education specialists struggle because e-Learning interaction is significantly more successful than traditional learning methods. In the absence of contact, students see no reason to improve. However, numerous studies have demonstrated the significance of e-learning interactions (or lack thereof). Developmental processes and motivation, like social development, executive functions, or personal identity information, have not been shown to be linked.

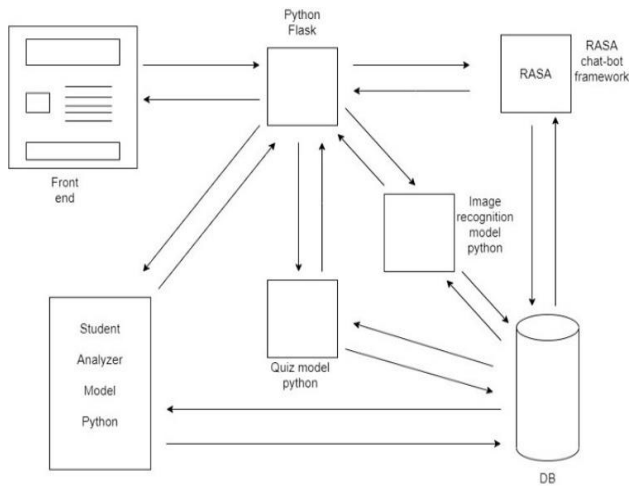


Fig. 1

**1. Personal training for children based on their performance**

This tool trains each student based on daily online classroom exercises. Training included quizzes, puzzles, etc. This evaluates the child's performance. According to the research difficulty, there is no way to conduct lesson-based examinations in a virtual classroom because a child's attention never focuses on a subject for long. By using the above-mentioned technologies, the suggested system would address this issue. Gathering data to forecast results is required to implement this function. Machine learning analyzes the results. The dataset must be trained using the best machine learning model or models. By using the learned dataset, the web software can predict more accurate results. To acquire the best results, you must study machine learning models and algorithms. This will be the backend. Personal training has questions for each grade and class. Students can take the test when the teacher gives permission. It's a chance to test and improve their expertise. Students, teachers, and parents must be motivated by the front end.

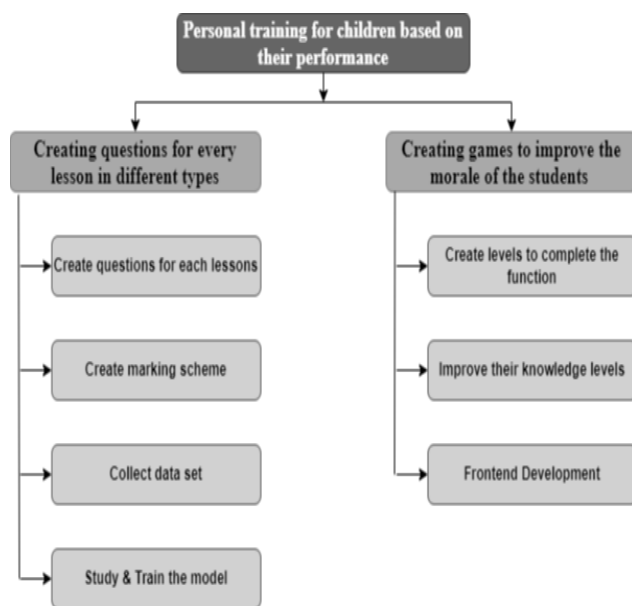


Fig. 2

**2. User assessment based on previous activities**

"Personal training for children based on their performance" outputs are required to implement "User assessment based on past actions." Quizzes, puzzles, tests, etc., produce desired results. Here, the most significant element is examining the kids' previous test performance. A student profile was established to examine student results. The analysis uses machine learning algorithms. Choose the best machine learning model or models to train the dataset. After training, the web software can predict more accurate results. Anyone can visit a student's profile to see exam results. If students' test scores are low, a road map is made to help them improve. There's a deadline for tests, and students can improve their grades. Parents can track their children's progress. If they have questions about test scores, they can contact the pupils' teachers. These are built into the web app's backend. To correctly anticipate the dataset, an appropriate model must be chosen.

**3. Voice assistance based on the attitude of the student**

Training a voice assistant requires selecting the exact model and algorithms. The backend is crucial for proper sound recognition. Students' data are trained to get the result. The front end will be student-friendly. Then, users can ask the voice assistant any questions about the online course. If the assistant understands the inquiry, it will answer directly. The taught questions are based on regular classroom inquiries. If the voice assistant can't grasp the student's query, the system displays a hilarious message. If the voice assistant can't answer children's questions, they get frustrated. This website is for elementary students. Therefore, interfaces must be user-friendly. During data set training, AI-based machine learning algorithms must be used. So, obtain profound knowledge through resources and undertake extensive research.

**4. Focus detection based on image capturing**

A data set must be gathered before the function can be implemented. A Convolutional Neural Network (CNN) is used to process the images (CNN). Deep learning theories and techniques must be studied to train the model. In the technique section, it was mentioned that CNN is the technology used for facial recognition. Backend development is going to be done this way. The front-end element of this web application is likewise meant to be very user-friendly because it is intended for primary school pupils. They prefer to interact with the website in a way that is pleasing to the eye. It is based on data gathered directly from the online classroom. To build the model, we use a lot of images of kids. Training numerous models and forecasting their accuracy is used to identify the best mechanism.

**4.1. Data Gathering**

We classify facial expressions into seven categories based on basic emotions: anger, disgust, fear, happiness, sadness, surprise, and neutral. Additionally, we employ CNN to distinguish various emotions or facial expressions. Based on the FER2013 dataset, estimate the amount of facial emotion.



Fig. 3

#### 4.2 Data Storage

The research's dataset was Facial Emotion Recognition 2013 (FER2013). The testing set has 7179 cases, whereas the training set has 28,709 examples. The information is 48 x 48.

images of the face in grayscale pixels. The faces have been automatically registered such that they are about evenly spaced throughout each image and are somewhat off-center. On the other hand, there are 70 cases in the test data set.

#### 4.3 CNN for facial expression recognition

The structure of CNN is shown in Fig 2. CNN has 12 convolution layers, 6 convolution layers, 2 subsampling layers, and 6 convolution layers.

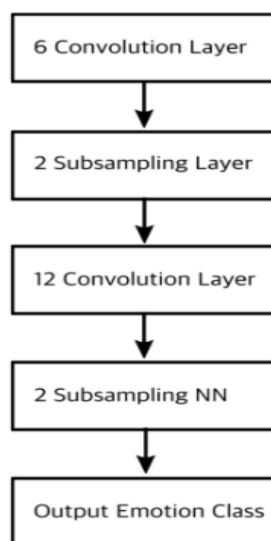


Fig. 4

#### 4.4. Haar Cascade Classifier

Paula Viola and Michael Jones' object detection technique uses a Haar feature-based cascade classifier. Rapid Object Detection Using a Boosting Cascade of Simple Features was the title of the article they proposed in 2001. A classifier is created by combining a number of Haar Like Features. The feature is the difference between the pixel value in the write region and the pixel value in the blank area. The face detector's base is 24 x 24 in size. Around 160k Haar-Like Features are possible from that base face detector. All of these functions are not, however, utilized.

## V. RESULTS AND DISCUSSION

Maintaining students' involvement and participation during lectures on Information Science can be difficult, which can make it challenging to demonstrate positive student-lecturer encounters and student participation. In addition, it is possible that it is questionable when students do not openly participate in the activity. This is because motivation and engagement have a big impact on learning and are potentially vital to academic success. Because of this, educational institutions at the higher education level (including those in New Zealand) have started using learning technologies such as GSRs to present lecture content in new ways, encourage students to participate in class in a confidential manner, and provide them with more constructive methods for modifying their work [16]. When we get to the "Discussion" portion of the paper, the first thing we do is address the research questions and provide our interpretation of the findings in light of previous studies. In the section labeled "Limitations," we discuss the limitations imposed on the task. In the end, in the section titled "Implications and future work," we evaluate the consequences of the analysis and make recommendations for future research. According to research carried out in the fields of learning and educational science, having a short attention span is associated with having low learning abilities [17]. It is essential to stimulate students' learning to have their attention and to keep them involved in what they are doing in the classroom.

#### Experimental Results

We used a video camera to conduct experiments while using a training dataset and testing dataset. We used the entire 28,709-image FER2013 dataset for our tests. Table 1 shows that we utilize different epochs and obtain various MSE and Accuracy results. We can infer from the trials that, as the training data epoch increases, the means square error is significantly lowering. We suggested that each phrase be tested ten times in real-time using a variety of testing data.

Table 1. MSE and Model Accuracy of CNN

Epoch	Num of Training Data	Num of Testing Data	MSE	Model Accuracy
30	28,709	70	0,8652	67%
50	28,709	70	0,6754	75%
75	28,709	70	0,5214	81%
100	28,709	70	0,4192	85%
150	28,709	70	0,3356	89%
200	28,709	70	0,2912	92%

The experiment's results are shown in Table 1. To train and evaluate the data, we used a variety of epochs. The findings show that the MSE value decreases as the epoch value increases. In a similar vein, model accuracy increased with increasing epoch. These examples demonstrate how effective the CNN method is for training and testing images.

**Table 2.** Facial Emotion Detection Classification

Epoch	Angry	Happy	Disgust	Sad	Neutral	Surprise	Fear
30	60%	70%	50%	60%	60%	60%	60%
50	70%	70%	70%	70%	70%	70%	70%
75	70%	80%	70%	70%	70%	70%	70%
100	80%	90%	80%	70%	70%	80%	70%
150	80%	100%	80%	80%	80%	80%	80%
200	90%	100%	80%	80%	90%	90%	80%

The accuracy rates for each epoch can be determined by classifying facial expression into seven categories. When we tested utilizing video, the face expression mode was problematic.

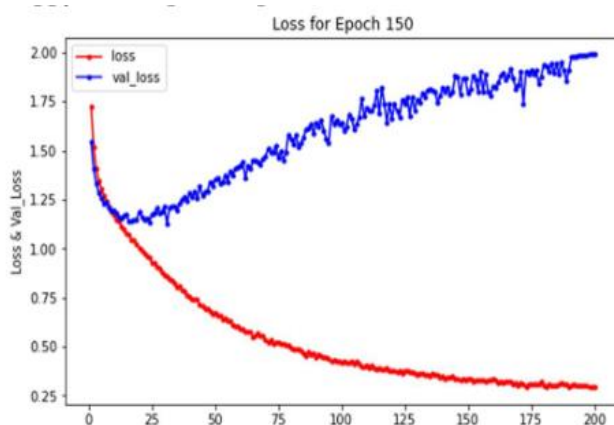


Fig.5 Mean Square Error or Loss when running the program

Mean Square Error versus Validation Loss was depicted in Figure 5. The validation loss will appear as a greater graphic when the loss or MSE decreases.

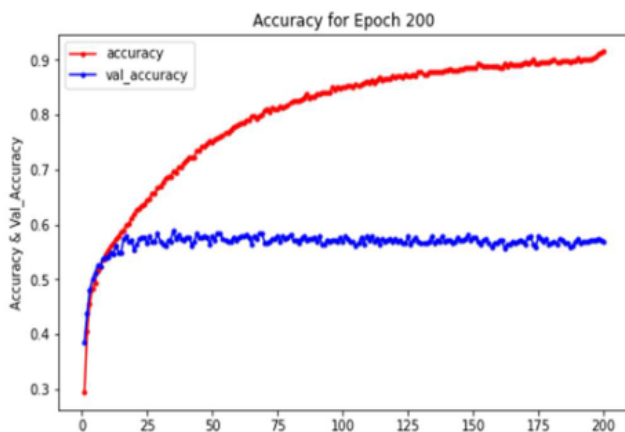


Fig.6 Model Accuracy when running the program

The experiment's scenario provides us with clear evidence of how well the model performs, with mean square error values falling from minimum to maximum epochs in our works.

The accuracy of the model for detecting facial emotions was suggested to increase in value in a separate graph in Fig. 6, which suggests that the better the accuracy value of the model, the smaller the MSE value should be.

### *How does the system influence classroom dynamics?*

This helped students interact with the professor, their peers, and the lecture subject. It gave Licorish et al. a unique learning experience. Research and Practice in Technology-Enhanced Learning (2018) 13:9 Fun classroom interactions resulted. When pupils are intrigued, they learn and stay engaged.

### *Does the use of influence students' engagement, and how?*

The students believed that the system not only kept their attention (or concentration) and involvement for the entirety of the class but that it also made it convenient for them to take breaks. For post-lecture reflection and classroom discussion, this was of the utmost importance, and this was especially true for lectures that lasted more than an hour.

### *In what ways does the use of this system influence students' motivation toward learning?*

As a result of the system, students were motivated to participate and encouraged to engage in classroom activities, as the findings demonstrated (both student-student and student-lecturer). Students were reminded of the importance of paying attention by being told that they needed to in order to succeed in this system. Students were encouraged to interact with the lecturer, their classmates, and the content of the lecture as a result of this.

## VI. CONCLUSION

The only available learning methods were those offered through internet platforms because of COVID-19. Coronavirus illness had a significant impact on the entire education sector, which was also severely impacted by COVID-19. COVID-19 had a similar level of impact on the education sector in Sri Lanka. Schools run by the government as well as those run by private organizations were shuttered for an entire year. The primary examinations were delayed, and as a result, those candidates had to contend with a great deal of difficulty. Even if most kids could become accustomed to using online platforms, it's possible that primary pupils won't be able to interact with them. Because of this, they require an extra amount of focus on their education, in addition to the guidance of their parents. However, the currently available online educational platforms cannot be expected to be of any use to parental supervision. The end goal of this research is to provide a solution for this shortcoming and make elementary education aware of a better online learning platform. This goal will be accomplished by providing a better understanding of the importance of online learning. The Online Learning and Analytical platform are what the research ultimately led to as a result of its efforts.

## ACKNOWLEDGMENT

Everyone who helped with our study is appreciated. Without their help, we couldn't advance our research. All supporters keep us focused on professionalism and doing the right thing, and we want to thank them for that.

Without their tenacity, we couldn't have successfully completed the project. Our research colleagues helped us in many ways to ensure the success of our study. We'd also like to thank everyone, especially our parents and other family members, for their spiritual and material assistance. In closing, we'd want to thank all of our friends and team members who helped with this research.

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