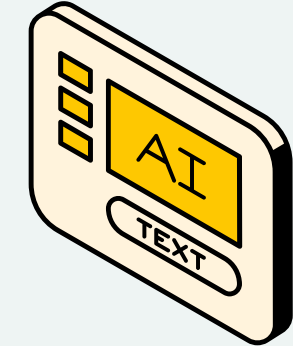
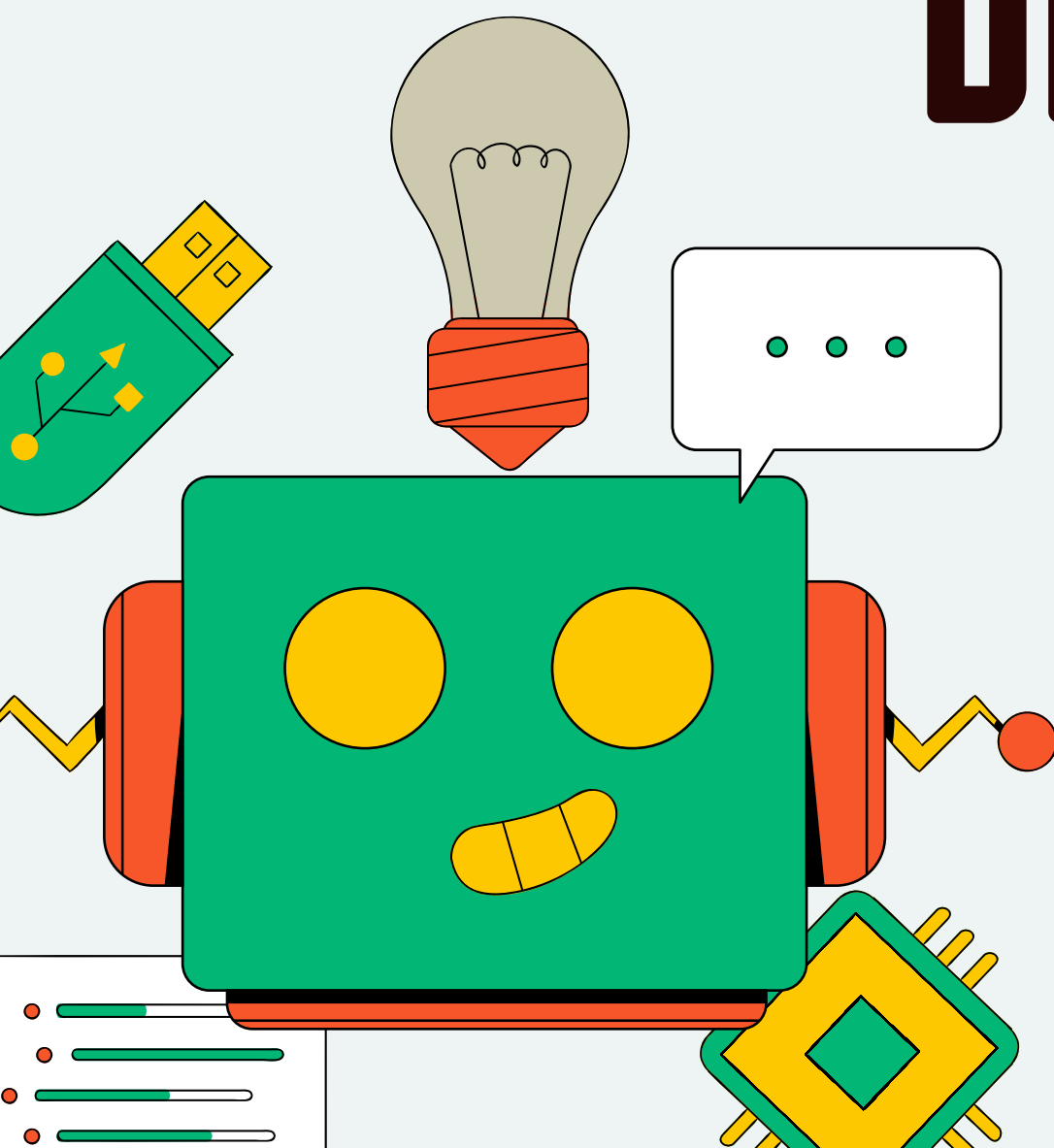


WE LEARN FOR THE FUTURE



ADVANCING HEALTHCARE: CERVICAL CANCER DETECTOR



PRESENTED BY:

**ANTO K THOMAS
DATA SCIENCE**

PRESENTATION CONTENTS

- Introduction
- Objective
- Methodology
- Module Description
- Result
- Future Scope
- Conclusion



INTRODUCTION

Imagine a world where machines can predict disease and detect disease. Cervical cancer is a significant health concern worldwide, and early detection is crucial for effective treatment.

- With the advancement of deep learning techniques, we are creating a model that can predict the cervical cancer cells easily.



OBJECTIVE

- The objective of this project is to develop a model which will detect cervical cancer.
- By the convolutional neural networks (CNNs) and deeplearning techniques, we are able to create a system that can detect cancerous cells which making faster and more accurate to better treatment outcomes.



METHODOLOGY

In this project, we will develop a deep learning model to detect cancerous cell in scanned images of cervical cells.

The model will be trained on a dataset of images containing a combined 9000 images of both normal and those with cancerous cells of cervical cells.

Then we preprocess the images, design a Convolutional Neural Network (CNN) architecture for classification, and test the model to accurately identify cancer cells.



MODULE DESCRIPTION



Data collection and preprocessing

Model development

Model training

Model Output



DATA COLLECTION AND PREPROCESSING

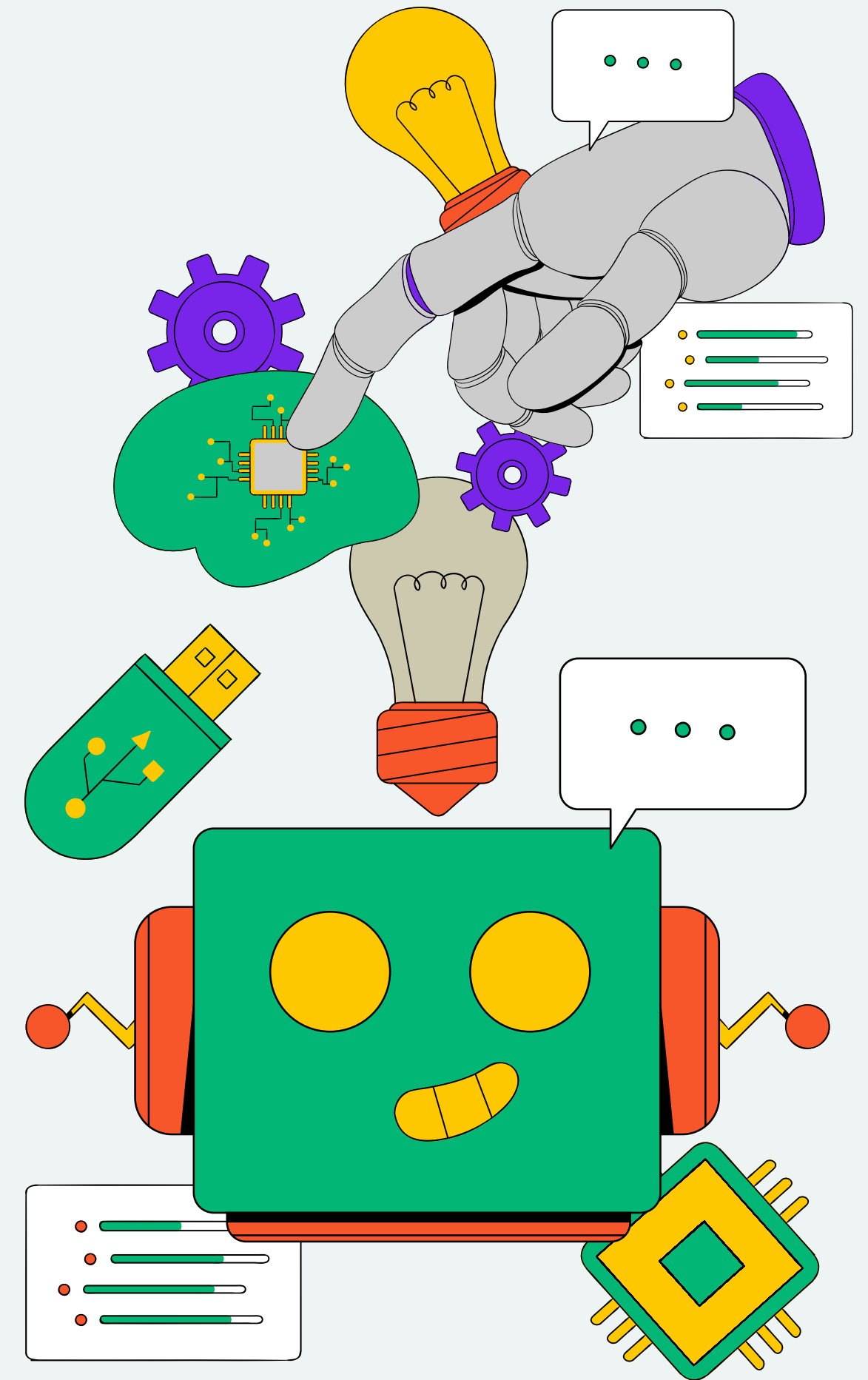
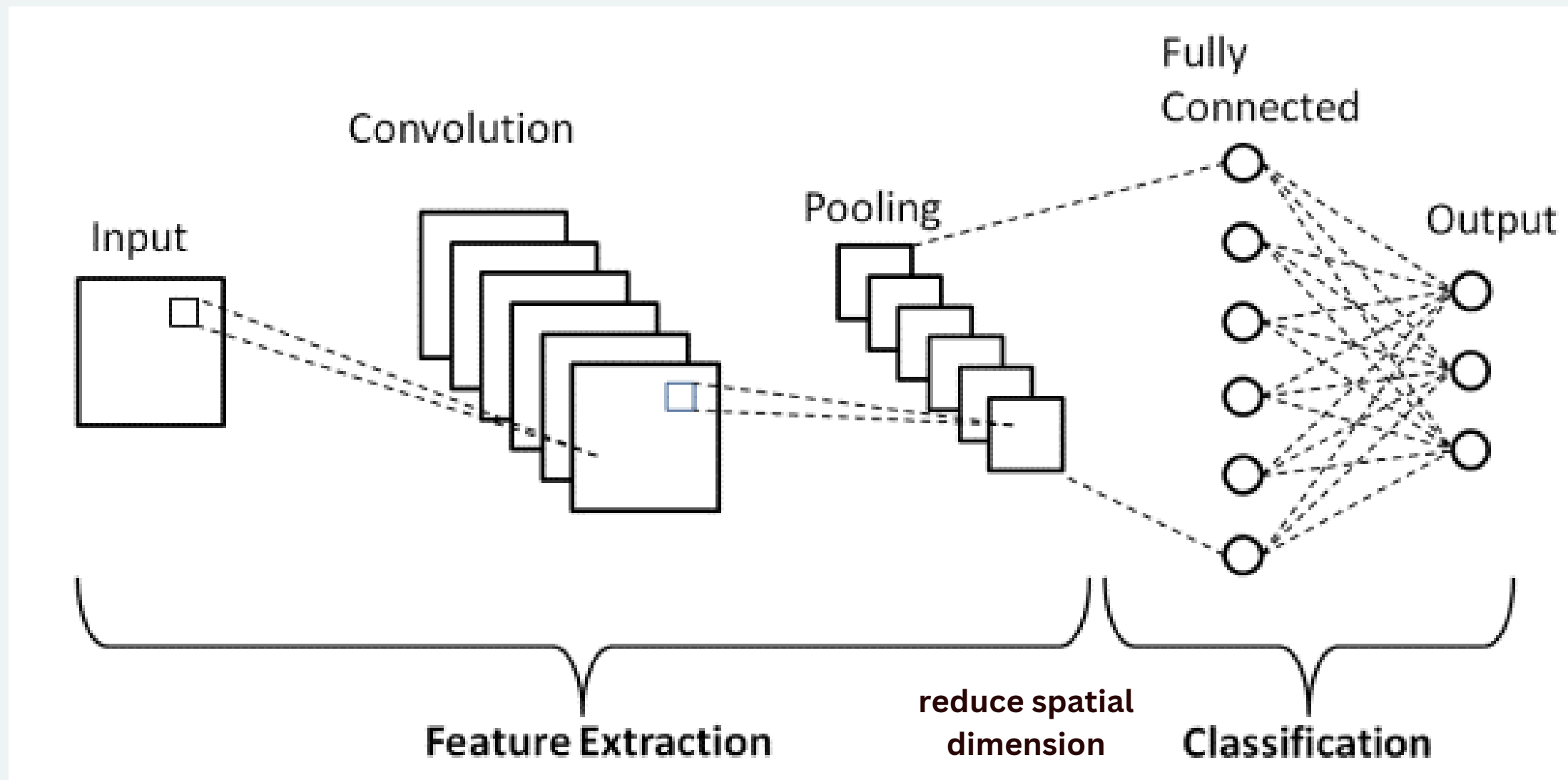


- The dataset of cervical cells images including both cancerous case and non-cancerous cases is collected from kaggle and loaded.
- The images are then preprocessed to prepare them for training the model.
- Preprocessing steps typically include resizing the images to a standard size, converting them to grayscale, and normalizing the pixel values to a range between 0 and 1.



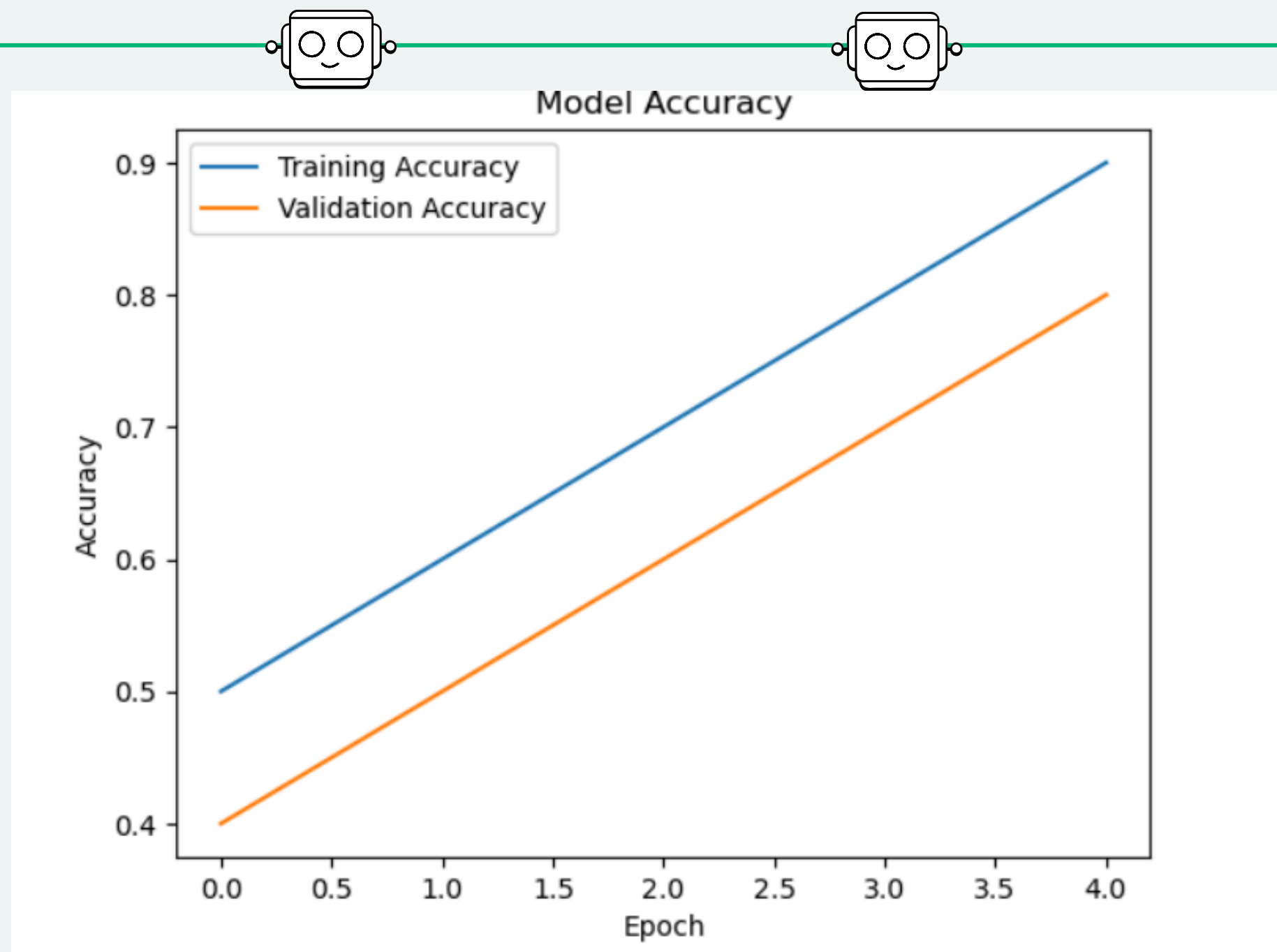
MODEL DEVELOPMENT

- The architecture of a Convolutional Neural Network (CNN) for classifying Cervical images as either normal or cancerous is designed.



MODEL TRAINING

- This module involves splitting the dataset into training and validation sets, and then training the CNN model on the training set.
- The validation set is used to monitor the model's performance and helps to prevent overfitting.





MODEL EVALUATION

- The predictions of the trained model on the test set are analyzed to understand its accuracy.
- The overall model accuracy is 94%.



RESULT



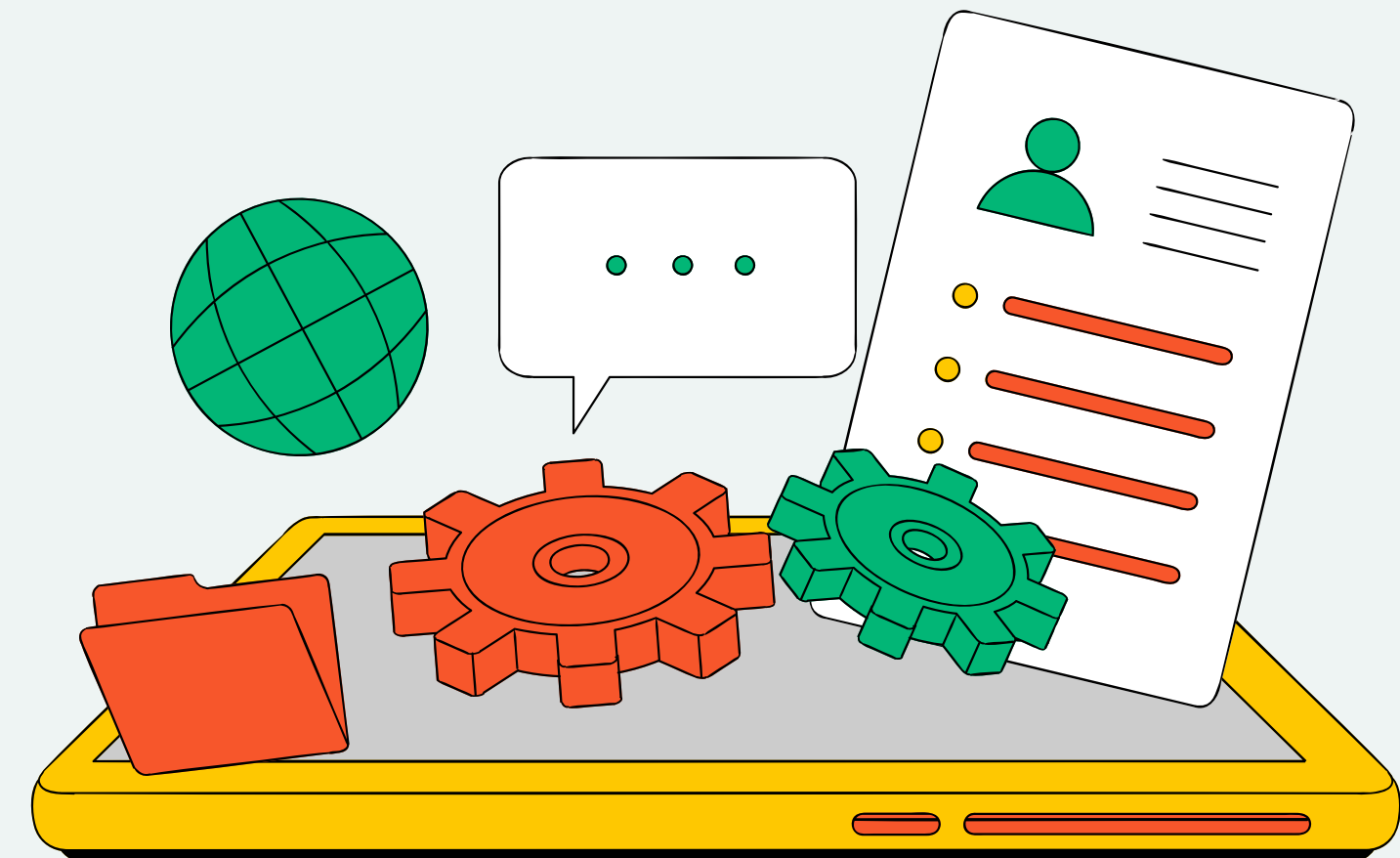
The trained model achieved an accuracy of 94% on the test set, indicating its ability to accurately classify Cervical cell images as cancerous cells or non-cancerous cells.



FUTURE SCOPE



- Integration with Healthcare Systems
- Early Detection and Prevention
- Improved Accuracy
- Real-time Decision Support



CONCLUSION

The Cervical Cancer Detection project successfully developed a deep learning model capable of accurately detecting cancer cell in cervical cell images. The model's high accuracy and performance demonstrate its potential as a valuable tool for assisting healthcare professionals in diagnosing cancer.



