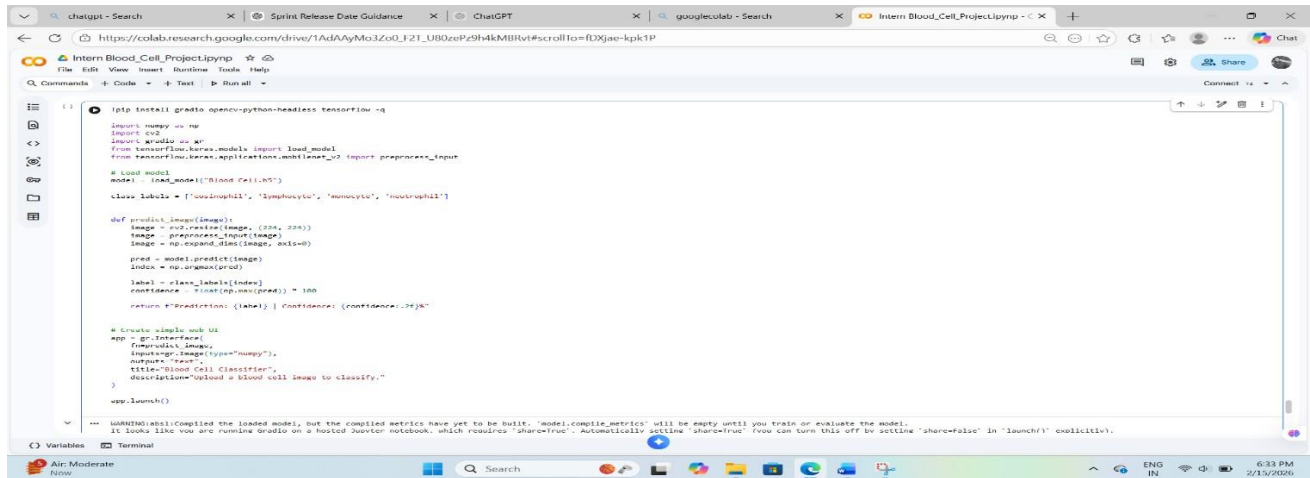


Gradio-Based Deployment of Blood Cell Classification Model

This section of the code deploys the trained Blood Cell classification model using the Gradio library. The saved model Blood_Cell.h5 is loaded, and class labels such as eosinophil, lymphocyte, monocyte, and neutrophil are defined. The predict_image() function preprocesses the uploaded image by resizing it to 224×224 pixels, applying MobileNetV2 preprocessing, and expanding dimensions before making predictions. The predicted class is determined using argmax, and the confidence score is calculated and displayed as output.



```
!pip install gradio opencv-python-headless tensorflow-gpu

import numpy as np
import cv2
import gradio as gr
from tensorflow.keras.models import load_model
from tensorflow.keras.applications.mobilenet_v2 import preprocess_input

# Load model
model = load_model('Blood_Cell.h5')

class_labels = ['eosinophil', 'lymphocyte', 'monocyte', 'neutrophil']

def predict_image(image):
    image = cv2.resize(image, (224, 224))
    image = preprocess_input(image)
    image = np.expand_dims(image, axis=0)
    pred = model.predict(image)
    index = np.argmax(pred)
    label = class_labels[index]
    confidence = float(np.max(pred)) * 100
    return f"Prediction: {label} | Confidence: {confidence:.2f}%"

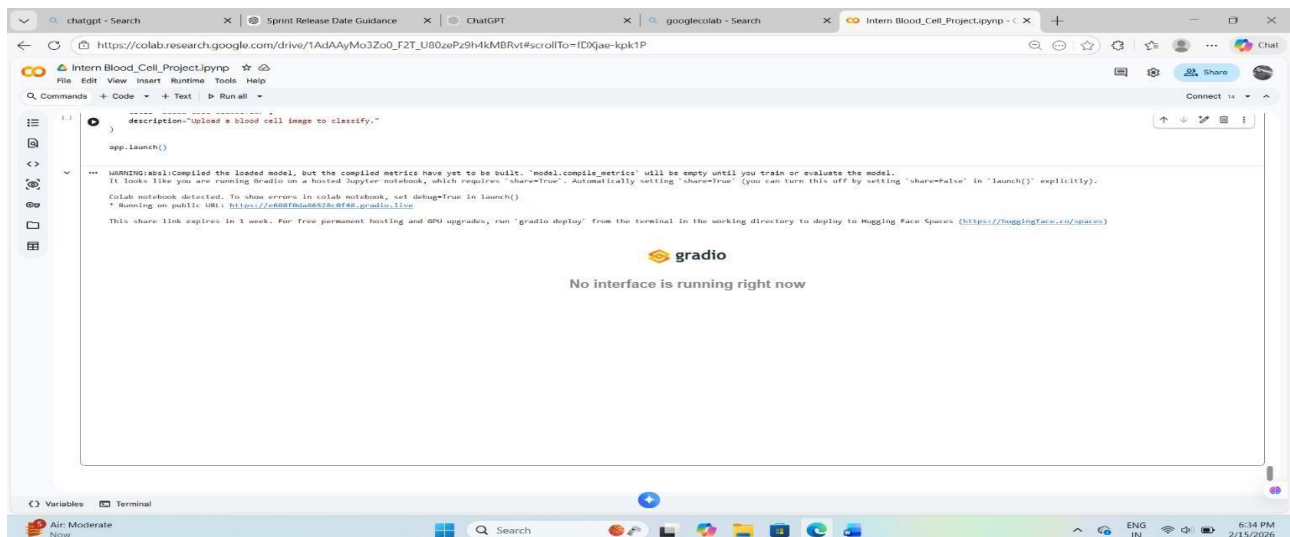
# Create simple web UI
app = gr.Interface(
    input=gr.Image(),
    output=gr.Text(),
    title="Blood Cell Classifier",
    description="Upload a blood cell image to classify."
)

app.launch()
```

WARNING:absl:Compiled the loaded model, but the compiled metrics have yet to be built. 'model.compile_metrics' will be empty until you train or evaluate the model.
It looks like you are running Gradio on a hosted Jupyter notebook, which requires 'share=True'. Automatically setting 'share=True'. You can turn this off by setting 'share=False' in 'launch()' explicitly.

Launching the Web Interface for Model Deployment

This part shows the execution of app.launch(), which starts the Gradio web interface for user interaction. Once launched, the application generates a public shareable link, allowing users to upload blood cell images and receive classification results in real time. The console output confirms successful deployment and provides the temporary URL for accessing the application online.




```
app.launch()
```

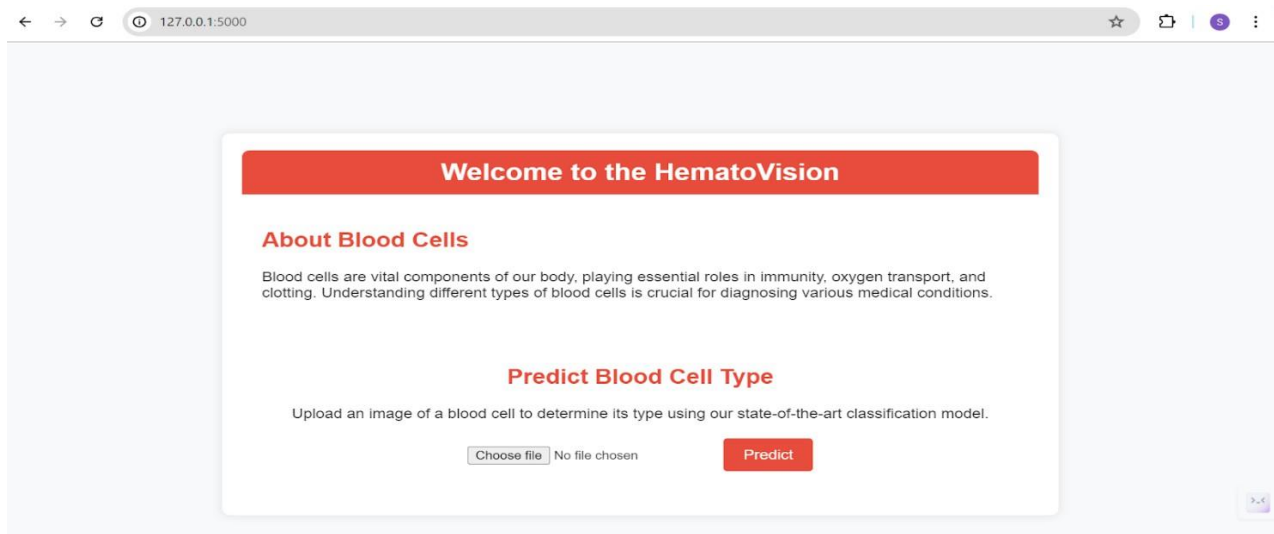
WARNING:absl:Compiled the loaded model, but the compiled metrics have yet to be built. 'model.compile_metrics' will be empty until you train or evaluate the model.
It looks like you are running Gradio on a hosted Jupyter notebook, which requires 'share=True'. Automatically setting 'share=True'. You can turn this off by setting 'share=False' in 'launch()' explicitly).

Colab notebook detected. To show errors in colab notebook, set debug=True in launch().
* Running on public URL: <https://c88f76a8b33e0766.gradio.live>

This share link expires in 1 week. For free permanent hosting and GPU upgrades, run "gradio deploy" from the terminal in the working directory to deploy to Hugging Face Spaces (<https://huggingface.co/spaces>)

 **gradio**

No interface is running right now



By clicking on choose file it will ask us to upload the image , then by clicking on the predict button it will take us to the result.html.

Activity 1: Test For Class-1 – Neutrophil

Predict Blood Cell Type

Upload an image of a blood cell to determine its type using our state-of-the-art classification model.



Activity 2: Test For Class-2 – Monocyte

Predict Blood Cell Type

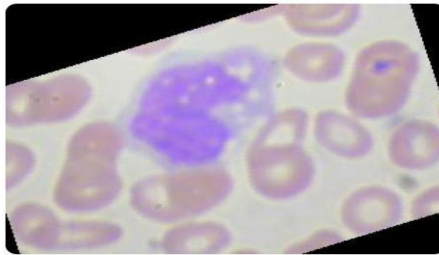
Upload an image of a blood cell to determine its type using our state-of-the-art classification model.

Choose file _3_9423.jpeg

Predict

Prediction Result

Predicted Class: monocyte



Upload Another Image

Activity 3: Test For Class-3 – Lymphocyte

Predict Blood Cell Type

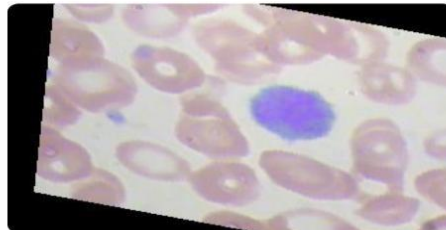
Upload an image of a blood cell to determine its type using our state-of-the-art classification model.

Choose file _5_9201.jpeg

Predict

Prediction Result

Predicted Class: lymphocyte



Upload Another Image

Activity 4: Test For Class-4 – Eosinophil

Predict Blood Cell Type

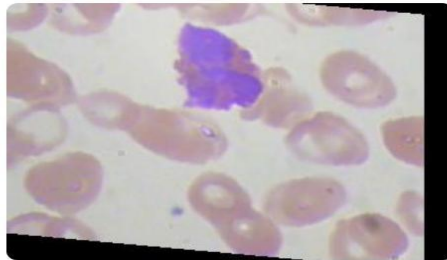
Upload an image of a blood cell to determine its type using our state-of-the-art classification model.

Choose file _3_9885.jpeg

Predict

Prediction Result

Predicted Class: eosinophil



Upload Another Image

Demo Link:

https://drive.google.com/file/d/1Fn6HTHfAA1PcC5Z_RBEgUgTjzyjEOQwQ/view?usp=drivesdkGoogle

Colab Link :

<https://colab.research.google.com/drive/1nnHWn4UKBKx6oxfna4zrmP5ovKtj4S5b>