

# User Manual for Terichomonas gallinae Image Classifier

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## 1 Requirements

### 1.1 Install Python

- Download Python 3.8 or newer from: <https://www.python.org/downloads/>
- During installation, make sure to check “Add Python to PATH”

### 1.2 Install Required Python Packages

Open Command Prompt and run:

```
pip install torch torchvision pillow
```

### 1.3 Installing Tkinter

In most cases, **Tkinter** is already included when you install Python on Windows.

**To check if tkinter is installed:**

1. Open Command Prompt
2. Type:

```
python -m tkinter
```

3. A small test window should appear.

**If you get an error:**

- Reinstall Python from <https://www.python.org/downloads/windows/>
- Make sure you select the **standard Windows installer** that includes ‘tkinter’
- Alternatively, use a package manager like ‘choco’:

```
choco install python
```

## 2 Running the Application

### 2.1 Option 1: Double-click the File

1. Rename the script file to `classifier_app.pyw`
2. Double-click the file. The GUI should appear.
3. If double-click doesn't work:
  - Right-click the file, select **Open with** → **Choose another app**
  - Select **python.exe** from the Python installation directory
  - Check “Always use this app to open .pyw files”

### 2.2 Option 2: Use Command Line

1. Open Command Prompt
2. Navigate to the folder where your script is located:

```
cd C:\path\to\your\script
```

3. Run the script:

```
python classifier\_app.py
```

## 3 Using the App

1. Click the “**Load Image**” button
2. Select a microscope image (.jpg, .png, etc.)
3. Click “**Classify**” to see the prediction
4. The result will be displayed as either **terichomonas gallinaeed** or **no\_terichomonas gallinaeed**, along with a probability

## 4 Troubleshooting

### 4.1 The App Doesn't Open

Make sure you have installed all required packages and are using Python 3.

### 4.2 Error: torch not found

Install Torch again:

```
pip install torch torchvision
```

### 4.3 No Output from Print

If you double-click the ‘.pyw’ version, console ‘print()’ messages will not appear. To debug, replace:

```
print("Message")
```

with:

```
from tkinter import messagebox  
messagebox.showinfo("Debug", "Message")
```

## 5 Credits

Developed by Sepehr Sobhdoost Deep Learning GUI for **Terichomonas gallinae** Detection