

System Requirements & Software Setup

System Requirements

- **CPU:** Intel i5 or better recommended
- **RAM:** At least 8 GB
- **Disk Space:** 2–4 GB free
- **GPU (Optional):** NVIDIA GPU with CUDA (for TensorFlow GPU)
- **OS:** Windows 10/11, macOS, or Linux (Ubuntu 20.04+)

Software Requirements

- **Python:** Version 3.7 – 3.10
- **Recommended:** Use `venv` or `conda` environment

Required Python Packages

```
flask
numpy
pandas
opencv-python
tensorflow
scikit-learn
matplotlib
seaborn
joblib
weasyprint
Pillow
```

Project Folder Structure

```
project-root/
├── app.py
└── templates/
    └── index.html
└── static/
    └── uploads/
        └── output_heatmaps/
└── models/
    ├── pneu_cnn_model.h5
    └── fusion_model2.h5
```

```
|   └── pneumonia_model.pkl  
|   └── pneumonia_scaler.pkl  
|   └── pneumonia_label_encoder.pkl  
└── logs/  
    └── app.log  
└── requirements.txt
```

How to Run

1. Install dependencies: `pip install -r requirements.txt`
2. Run the app: `python app.py`
3. Visit in browser: `http://127.0.0.1:5000/`