

# 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/`