# Gender & Age Detection App

## Gender & Age Detection App

### Demo

Upload any photo, and the app will:

- Detect all visible faces.
- Predict each person's gender and age group.
- Show prediction confidence levels.
- Annotate and display the image.

### Models Used

Uses OpenCV DNN module with pre-trained models:

- Face Detector: opencv_face_detector_uint8.pb + opencv_face_detector.pbtxt
- Age Detector: age_net.caffemodel + age_deploy.prototxt
- Gender Detector: gender_net.caffemodel + gender_deploy.prototxt

### Folder Structure

```
 app.py
 models/
    opencv_face_detector.pbtxt
    opencv_face_detector_uint8.pb
    age_deploy.prototxt
    age_net.caffemodel
    gender_deploy.prototxt
    gender_net.caffemodel
 requirements.txt
 README.md
```

### Installation

1. Clone the repository:

# Gender & Age Detection App

```
git clone https://github.com/your-username/gender-age-detection-app.git
cd gender-age-detection-app
```

2. (Optional) Create and activate a virtual environment:

```
python -m venv venv
source venv/bin/activate  # or on Windows: venv\Scripts\activate
```

3. Install dependencies:

```
pip install -r requirements.txt
```

4. Add the pre-trained models in the 'models/' folder.

## Running the App

Run the app with:

```
streamlit run app.py
```

Opens at http://localhost:8501

## Sample Labels

- Age Buckets: (0-2), (4-6), (8-12), (15-20), (21-24), (25-32), (38-43), (48-53), (60-100)
- Gender Buckets: Male, Female

## Notes

- Make sure faces are clearly visible.
- Works on CPU.
- For educational/demo use.

## Future Improvements

- Add webcam input.

# Gender & Age Detection App

- Improve UI/UX.
- Docker support.
- Deploy to cloud.

## License

This project is open-source under the MIT License.

## Acknowledgements

- OpenCV DNN Face Detection
- Pre-trained models from OpenCV GitHub