Special Software Required

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Software Required to Run the Project

Below is the list of special software and dependencies required to run the project.

1. Anaconda

- Download and install Anaconda from here.
- Ensure you check the box to add Conda to your system's PATH during installation.

2. Python

- Python version **3.9.2** (This version is mandatory).

3. Required Python Packages

The following Python libraries need to be installed within the Anaconda environment:

```
conda install -c conda-forge notebook
pip install tensorflow
conda install -c conda-forge keras
conda install -c anaconda scikit-learn
conda install -c conda-forge opencv
conda install -c anaconda scikit-image
conda install -c anaconda flask
pip install pandas
pip install werkzeug==2.3.7
pip install cmake
conda install -c conda-forge dlib
pip install torch==2.0.1
pip install torchvision==0.15.2
pip install numpy==1.24.2
pip install matplotlib==3.6.2
pip install face-recognition
```

4. Additional Software

- **Flask** – A web framework used to run the web application.

- **OpenCV** – A computer vision library for image processing.
- **TensorFlow & Keras** – Used for deep learning model execution.
- **Dlib** – A machine learning library for facial recognition.
- **Torch & torchvision** – For deep learning operations.

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2. README File

Project Title: Deep Fake Face Detection Using Machine Learning

This document provides step-by-step instructions to set up and run the project.

1. Hardware Requirements

- A computer with at least **8GB RAM** (Recommended **16GB RAM** for smooth execution).
- A processor with **AVX** support (For running deep learning models efficiently).
- **GPU (Optional)** – If using deep learning models for faster execution.

2. Software Requirements

- **Operating System**: Windows, macOS, or Linux.
- **Anaconda**: Download from here.
- **Python 3.9.2**: Installed via Anaconda environment.

3. Setting Up the Environment

1. Open **Anaconda Navigator**.
2. Click on **Environments** (left panel).
3. Click on **Create New Environment**.
4. Name the environment **home-project**.
5. Select **Python 3.9.2** (This version is important).
6. Click **Create**.

4. Installing Required Libraries

Open the terminal (cmd for Windows, Terminal for macOS/Linux) and execute:

```
conda activate home-project
conda install -c conda-forge notebook
pip install tensorflow
conda install -c conda-forge keras
```

```
conda install -c anaconda scikit-learn
conda install -c conda-forge opencv
conda install -c anaconda scikit-image
conda install -c anaconda flask
pip install pandas
pip install werkzeug==2.3.7
pip install cmake
conda install -c conda-forge dlib
pip install torch==2.0.1
pip install torchvision==0.15.2
pip install numpy==1.24.2
pip install matplotlib==3.6.2
pip install face-recognition
```

5. Running the Project

1. Navigate to the project folder in the terminal:

   ```
   cd path\to\your\folder
   ```

   (Replace `path\to\your\folder` with the actual folder path.)
2. Run the application:

   ```
   python app.py
   ```

3. The Flask app will start and display a link like:

   ```
   http://127.0.0.1:5000
   ```

   Open this link in your browser.