Simple Voice Authentication with Python

PART 1: Environment Setup

Step 1: Install Python
- Visit https://www.python.org/downloads
- Download and install the latest Python 3.x version.
- Check the box "Add Python to PATH" during installation.

Step 2: Install a Code Editor (Optional)
- Recommended: Visual Studio Code (https://code.visualstudio.com/)

Step 3: Create Your Project Folder
- Example: voice_auth_project/

Step 4: Open Terminal / Command Prompt and Navigate to the Folder
- Windows: cd path\to\voice_auth_project
- Mac/Linux: cd /path/to/voice_auth_project

PART 2: Install Required Python Libraries

Step 5: Install Libraries
In terminal or command prompt, run:
pip install numpy librosa scikit-learn sounddevice scipy

PART 3: Prepare Your Voice Samples

Step 6: Create Folder for Known Voice Samples
voice_auth_project/
■■■ known_voices/
■ ■■■ sample1.wav
■ ■■■ sample2.wav

Step 7: Add a Test Sample
- Record a test_voice.wav to test voice matching.

PART 4: How the System Works

1. Extract features (MFCCs) from voice samples.
2. Train a model with your voice samples.
3. Test a new sample and compare.
4. Output: "Your Voice" or "Not Your Voice"

Summary Checklist:
- [ ] Python Installed
- [ ] Required Libraries Installed
- [ ] Project Folder Created
- [ ] Voice Samples Collected
- [ ] Script Ready to Run