Problem

There are many places where it would be helpful if our computers could identify faces or assist us with it to save time. Some examples are:

- **Attendance**
- **Tracking people with security or street cameras**
- **Tagging people in pictures**
- **Personalization**

Hypothesis

- **We can remember a person after seeing them for a few seconds, so a computer should be able to do that too.**
- **The hypothesis is that the computer should be able to remember a person by seeing them for a few seconds and be able to recognize them after that.**

Procedure

1. The first application (add_face.py) takes input from the webcam for a few seconds to get 100 images of them. It stores this face data in folders based on the person's name.
2. The second application (train.py) trains on those images or memorizes them.
3. The main application (faces.py) recognizes and identifies the people that it knows.

Results

- **This application is able to:**
  - **Look at the person for a few seconds**
  - **Train on them quickly**
  - **Recognize them in real-time with excellent accuracy**
- **It makes boxes around the faces that it detects and puts the person's name above the face if it can identify it.**
- **It works just as expected with amazing results!**

Conclusion

This face recognition application is usually working very well even though it has a small amount of data and uses a simple model. If the program is given more data to train on and uses more advanced models such as a deep learning model, it would be significantly more accurate than it currently is.