Difference from existing projects:

- Proposes a new technique of feature-specific adaptive thresholding to improve the recognition accuracy.
- Instead of a fixed threshold (L2) it has an adaptive one

Model:
2 Operations:

- Registration -> extracts a feature vector -> considers the face to be registered in the system -> a specific threshold is applied for each face
- Recognition -> compares the similarity scores between existing faces

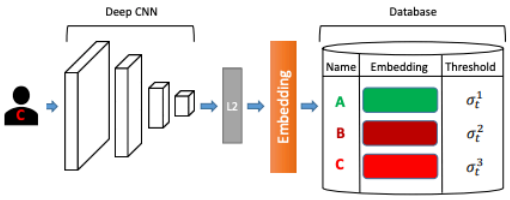

Figure 1. System Structure. It consists of a deep CNN with a L_2 normalization layer, and a database for storing feature embeddings.

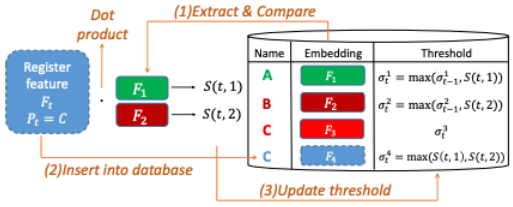

Figure 2. Registration Flowchart. F_t is the embedding of a registering image with identity C. (1) Compute the similarity scores of F_t and all embeddings other than C. (2) Store F_t and its name in the database. (3) Update the thresholds of all the embeddings accordingly.

3. Methodology

We have two operations in our system: registration and

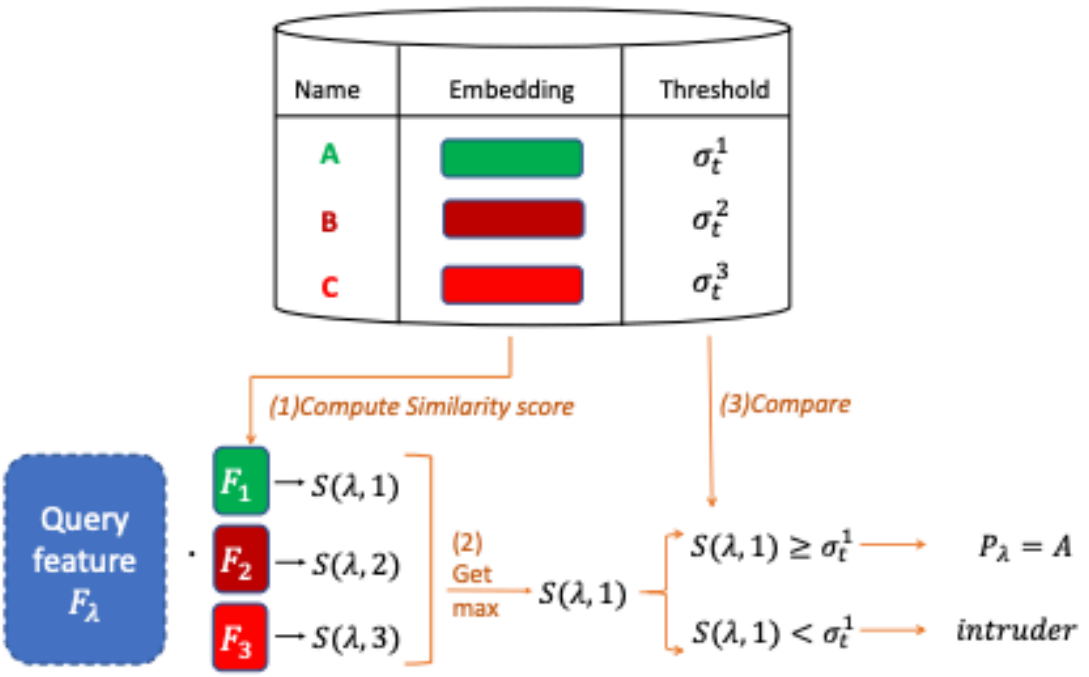

Figure 3. Recognizing Flowchart. F_λ is the embedding of a query image I_λ. (1) Compute the similarity score of F_λ with all embeddings. (2) Get the maximal similarity score. (3) Compare the score with the stored threshold to determine whether the query is an intruder or a registered identity.

-> Use a 10 fold CV (cross-validation)

Challenges:
-> I guess the input quality of the image, cause the db has good quality pics ?

PDF:
https://arxiv.org/pdf/1810.11160v1.pdf

Code:
https://github.com/ivclab/Online-Face-Recognition-and-Authentication