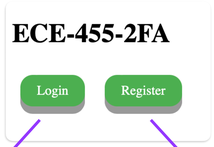
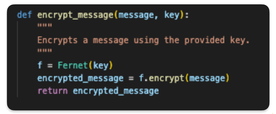




```python
def encrypt_message(message, key):
    """
    Encrypts a message using the provided key.
    """
    f = Fernet(key)
    encrypted_message = f.encrypt(message)
    return encrypted_message
```

2FA PENDING?

Registration successful.

No!

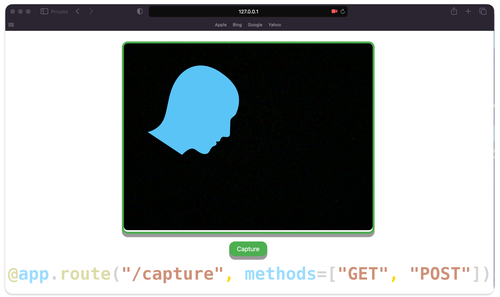
Yes!

.pkl

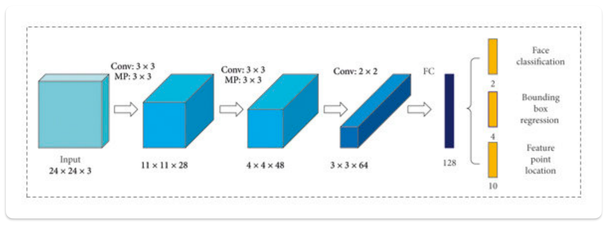
id	username	password_hash	...	image_3	embedding	is_authenticated
1	am	scrypt:32768:8:1$aizhH1tzhmAIV3Br$3e83731a9a35...	...	b'gAAAAABldtvRP-jz8OtkcwdVBjQryn45QrU5bHhrLeYD...	b'gAAAAABldtvPYli0i9Wkra_pvmILObUfMmFiZLeKS...	True
2	aryan	scrypt:32768:8:1$1tcnYdBxmjRGgTb2$98076e9975a9...	...	b'gAAAAABlduJbTXwH6dJaluJeBPE6sfzLy1mhy7rhMd_r...	b'gAAAAABlduJZcpiAxS7ihJ2-1DjRIng_XdOfMwcQa...	True
4	Alice	scrypt:32768:8:1$GGm8Mh1nUcVhyfxd$18cf398f7683...	...	b'gAAAAABlduLdPk0lzpTqFwCGYiHddvS2DbbTu4nJzGJ8...	b'gAAAAABlduLZDAquybI-tYD5Leyqfvh1M0GQ73df...	False
5	bob	scrypt:32768:8:1$2918Jeq419j8RSZW$e7e760c1e1a4...	...	b'gAAAAABlduRD60xiy8Y_CxG-WT4LialCeNpq1xsM_m7c...	b'gAAAAABlduRAYjhkdnPoGVtXSXisUZHB3pb3emQQFh3b...	True

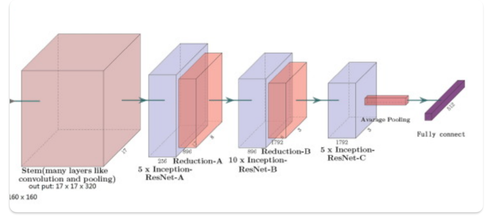
Fetch and Decrypt embedding -> {username}

```python
def get_embedding_by_username(username: str):
    USERS = get_df_from_db("user/users.db")

    user_data = USERS[USERS["username"] == username]
    if user_data.empty:
        print("User not found.")
        return None

    encrypted_embedding = user_data.iloc[0]["embedding"]
    if encrypted_embedding is not None:
        decrypted_embedding = decrypt_message(encrypted_embedding, FERNET_KEY)
        embedding = pickle.loads(decrypted_embedding)
        print(embedding.shape)
        return embedding
    else:
        print("Embedding not found.")
        return None
```




```python
def verify_face(new_embedding, stored_embeddings, threshold=0.6):
    # Compute cosine similarity between the new embedding and each stored embedding
    similarities = cosine_similarity(new_embedding, stored_embeddings)

    # Check if any of the similarities exceed the threshold
    match = any(similarity >= threshold for similarity in similarities[0])

    return match
```






+

=> FALSE


+

=> TRUE