loss 18 :

groundtruth : lay green with e one please

result : play redn in o ie please

loss 13 :

groundtruth : lay blue with r two now

result : play blue it u wo now

Loss 8:

groundtruth : lay red with j nine again

result : play red with q nine again

Predictions

result for file s2bril9p.mpg

Speech result :

groundtruth :bin red in l nine please

prediction :being read in l nine please

score 0.9230769230769231

lip result :

groundtruth :bin red in l nine please

prediction :bdbin red in e eine please

score 0.88

groundtruth : lay red with j nine again

result : play red with q nine again

result for file s15bwir5s.mpg

Speech result :

groundtruth :bin white in r five soon

prediction :bin white in our five soon

score 0.9411764705882353

lip result :

groundtruth :bin white in r five soon

prediction :bin white it f five soon

score 0.9166666666666666

result for file s28srie4s.mpg

Speech result :

groundtruth :set red in e four soon

prediction :set red in eporson

score 0.8292682926829268

lip result :

groundtruth :set red in e four soon

prediction :pdpla e green it o four soon

score 0.68

result for file s30lbaa7n.mpg

Speech result :

groundtruth :lay blue at a seven now

prediction :lay bleet e seven now

score 0.8444444444444444

lip result :

groundtruth :lay blue at a seven now

prediction :pdlay blue in e seven now

score 0.8333333333333334

result for file s15lgiq5s.mpg

Speech result :

groundtruth :lay green in q five soon

prediction :lay green in cue five soon

score 0.9019607843137255

lip result :

groundtruth :lay green in q five soon

prediction :ldlay green in f five soon

score 0.92

result for file s15pwwj3a.mpg

Speech result :

groundtruth :place white with j three again

prediction :place white with j three again

score 0.9836065573770492

lip result :

groundtruth :place white with j three again

prediction :lplace white it u the again

score 0.8771929824561403

result for file s22sbbf3p.mpg

Speech result :

groundtruth :set blue by f three please

prediction :sepleu by fthree please

score 0.84

lip result :

groundtruth :set blue by f three please

prediction :pset blue by m three please

score 0.9433962264150944

result for file s20sbaz1n.mpg

Speech result :

groundtruth :set blue at z one now

prediction :set blue as ed wone now

score 0.844444444444444

lip result :

groundtruth :set blue at z one now

prediction :set bleen in o one now

score 0.7906976744186046

result for file s8srwb1n.mpg

Speech result :

groundtruth :set red with b one now

prediction :set red with bee one now

score 0.9361702127659575

lip result :

groundtruth :set red with b one now

prediction :

score 0.08695652173913043

result for file s6pwbj6s.mpg

Speech result :

groundtruth :place white by j six soon

prediction :place white by j six soon

score 0.9803921568627451

lip result :

groundtruth :place white by j six soon

prediction :lplace white by b six soon

score 0.9411764705882353

result for file s15sbir8n.mpg

Speech result :

groundtruth :set blue in r eight now

prediction :set blue in aur eight now

score 0.9387755102040817

lip result :

groundtruth :set blue in r eight now

prediction :pset blue it i eint now

score 0.8260869565217391

result for file s4swwc2s.mpg

Speech result :

groundtruth :set white with c two soon

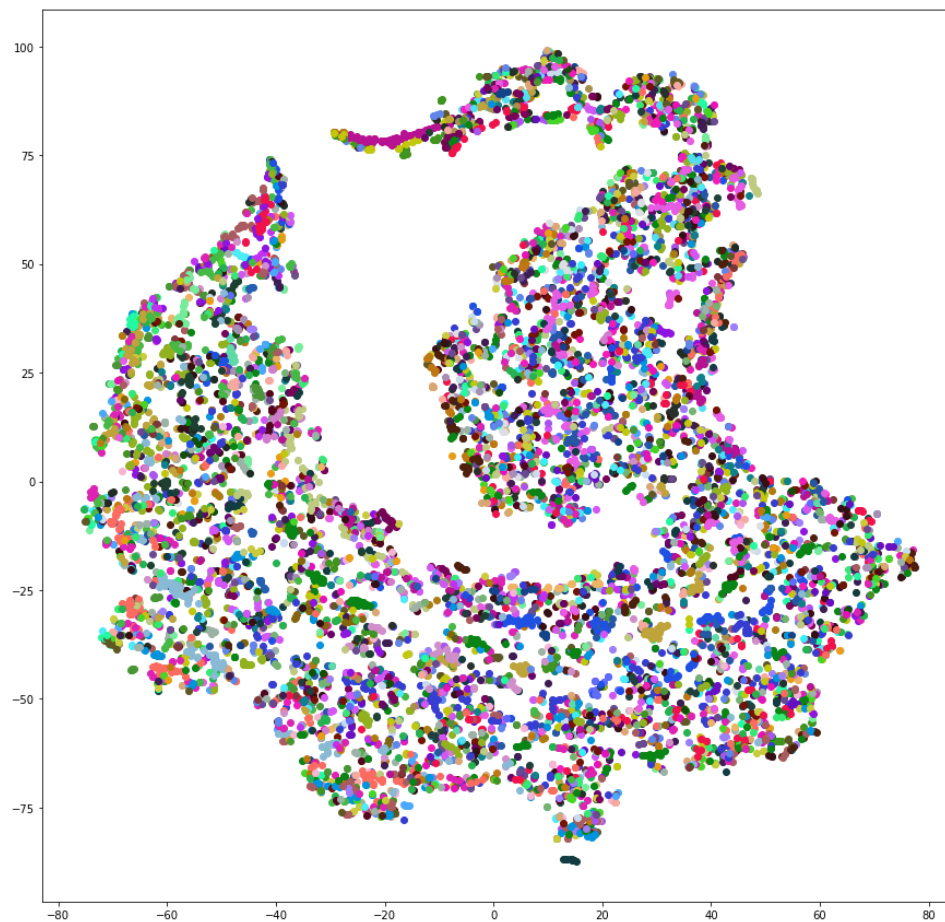prediction :set white with sea too soon
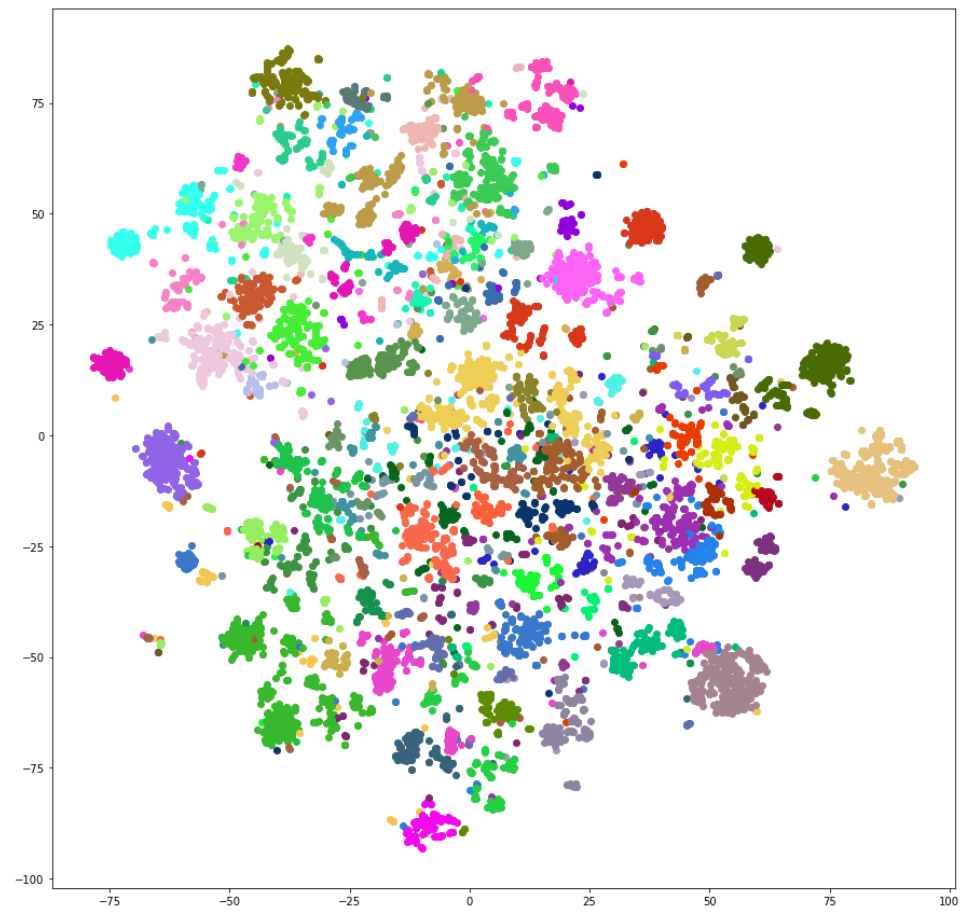
score 0.8679245283018868

lip result :

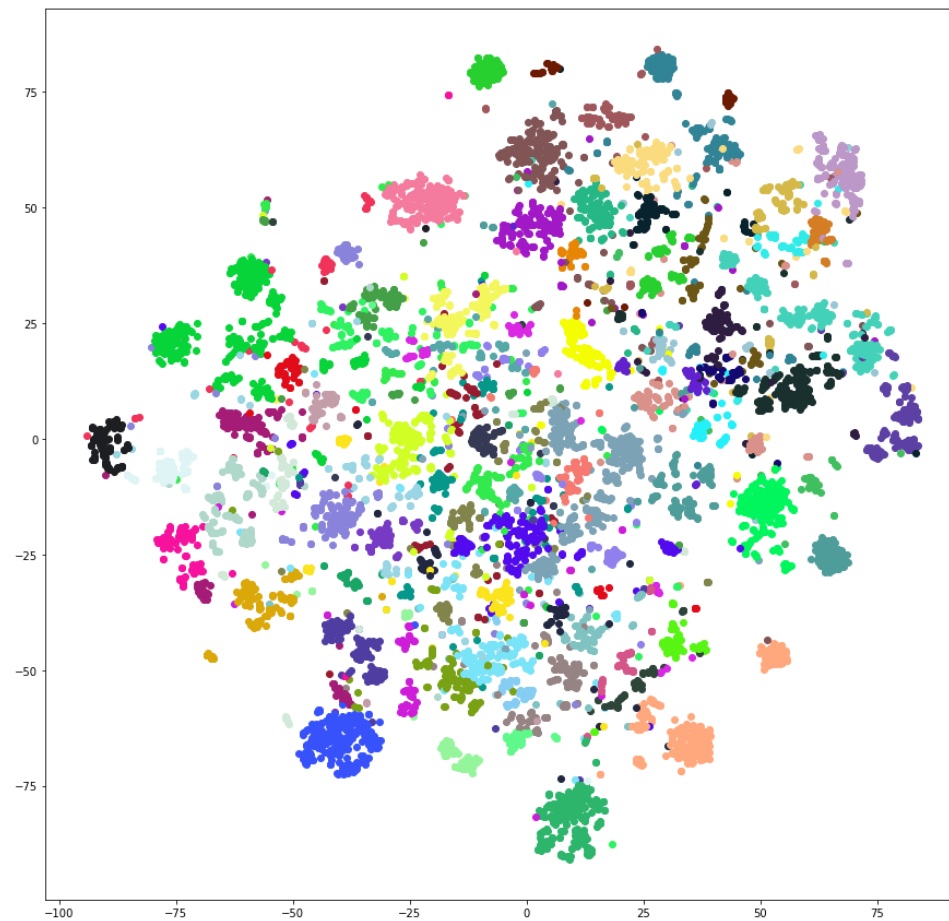groundtruth :set white with c two soon

prediction :set white with l two soon

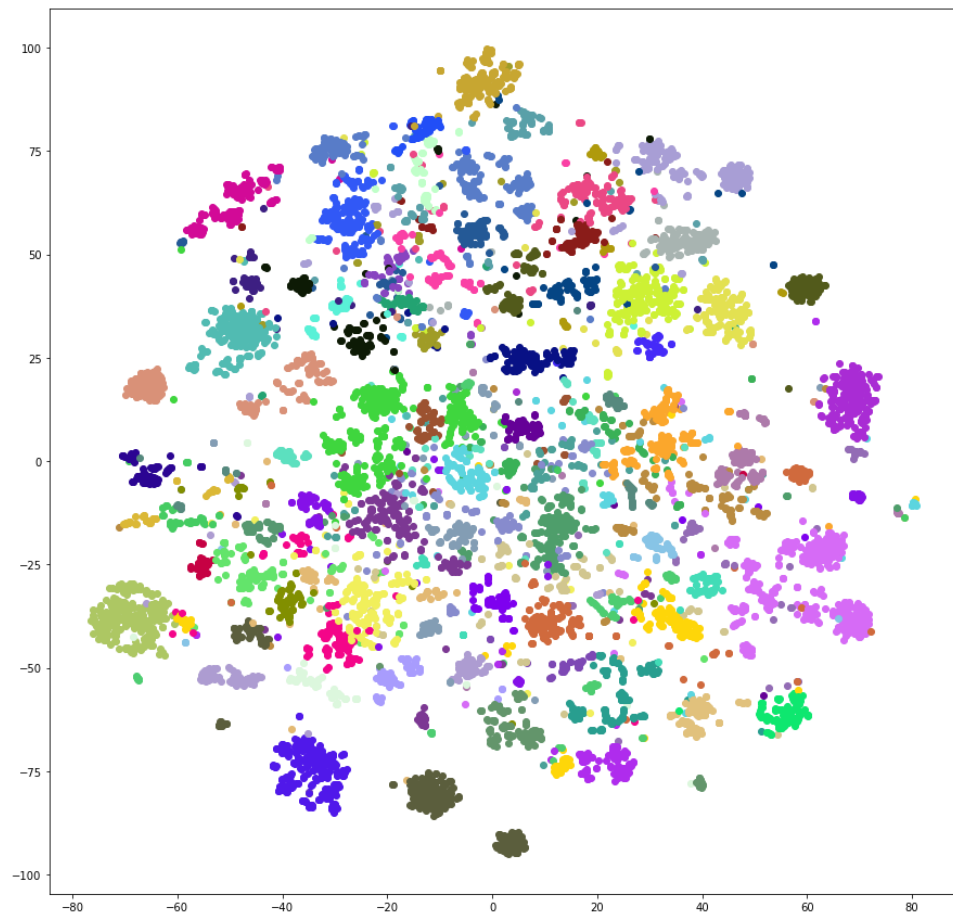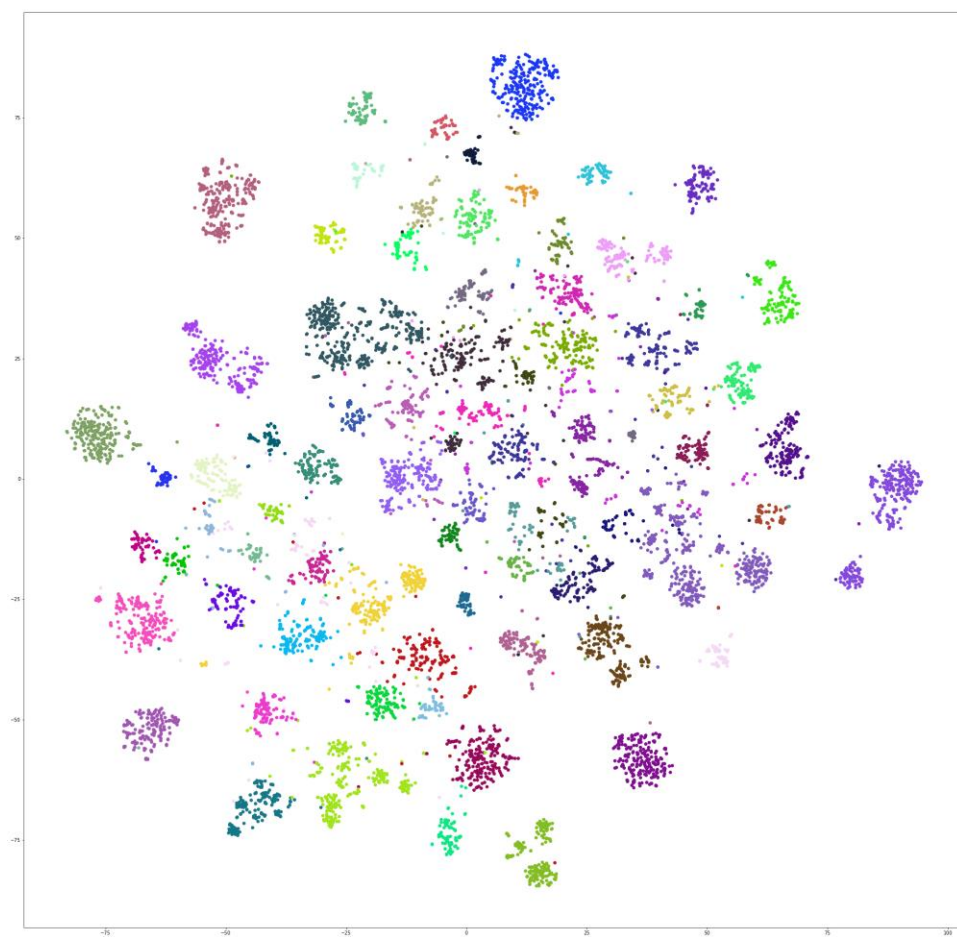score 0.96

Speaker recognition scatter plot(Unseen Speakers)

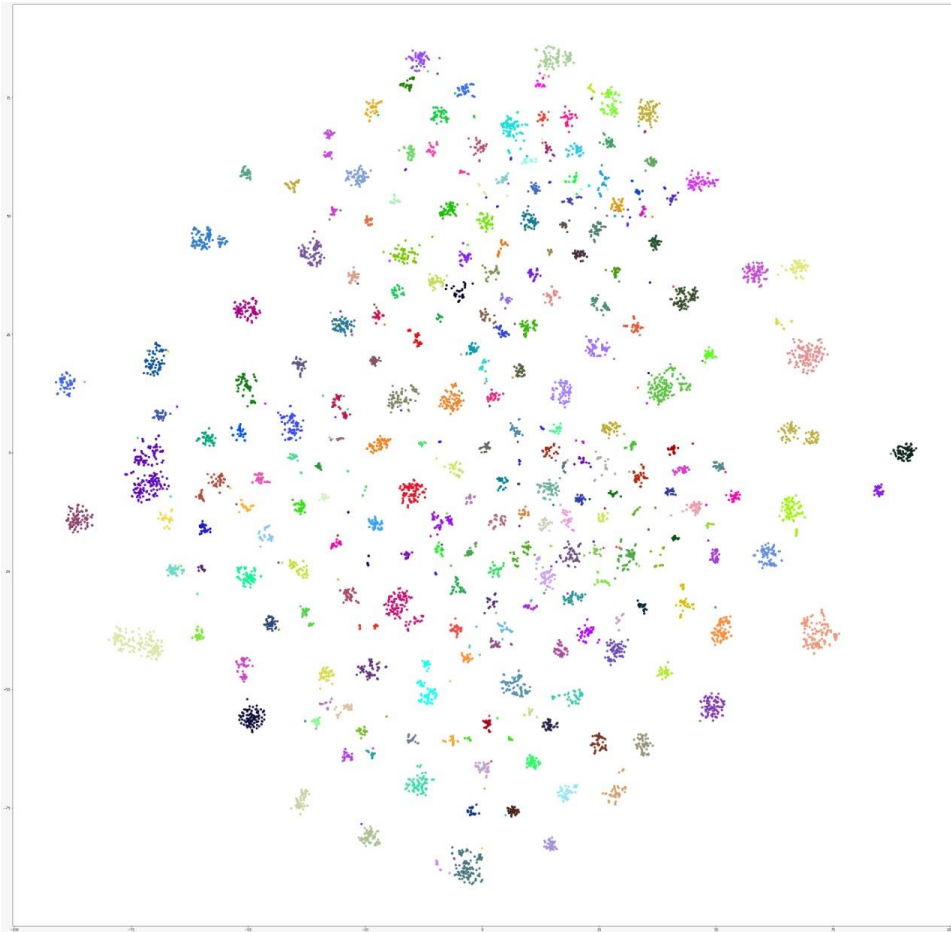## Evaluating Speaker Recognition

```
tripletmodel.evaluate(triplettrain)
```

```
evaluating
total parameters : 13379378    trainable parameters : 13379378    frozen parameters : 0
loss: 0.4951acc: 0.9375 acc: 0.9512: 100%        24575/24575 [33:17<00:00, 12.30it/s]

loss :  0.4976873205139824   accuracy :  0.9511648016276704
```

spk1   180 spk2   180   pred   0.7892135381698608 (1)   result   True

spk1　14 spk2　14　pred　0.8499702215194702 (1)　result　True

spk1　4 spk2　4　pred　0.850696325302124 (1)　result　True

spk1　506 spk2　521　pred　0.535987138748169 (0)　result　True

spk1　26 spk2　26　pred　0.6864602565765381 (1)　result　True

spk1　784 spk2　784　pred　0.7063673734664917 (1)　result　True

spk1　414 spk2　414　pred　0.7134115695953369 (1)　result　True

spk1　299 spk2　258　pred　0.533926784992218 (0)　result　True

spk1　955 spk2　955　pred　0.8098076581954956 (1)　result　True

spk1　126 spk2　126　pred　0.5537062287330627 (0)　result　False

spk1　900 spk2　12　pred　0.5115472674369812 (0)　result　True

spk1　953 spk2　953　pred　0.7260165214538574 (1)　result　True

spk1　615 spk2　136　pred　0.4527082145214081 (0)　result　True

spk1　842 spk2　842　pred　0.8413611650466919 (1)　result　True

spk1　960 spk2　559　pred　0.5437329411506653 (0)　result　True

spk1　846 spk2　846　pred　0.7847232222557068 (1)　result　True

spk1　679 spk2　679　pred　0.7045183777809143 (1)　result　True

spk1　943 spk2　212　pred　0.4528823494911194 (0)　result　True

spk1　17 spk2　237　pred　0.4129672348499298 (0)　result　True

spk1　384 spk2　384　pred　0.7928439378738403 (1)　result　True

spk1　50 spk2　324　pred　0.5822631120681763 (0)　result　True

spk1　291 spk2　291　pred　0.8036253452301025 (1)　result　True

spk1　876 spk2　874　pred　0.4894803762435913 (0)　result　True

spk1　414 spk2　721　pred　0.41391628980636597 (0)　result　True

spk1　447 spk2　447　pred　0.7263307571411133 (1)　result　True

spk1　604 spk2　604　pred　0.8199232816696167 (1)　result　True

spk1　314 spk2　314　pred　0.6878713369369507 (1)　result　True

spk1　426 spk2　426　pred　0.7913979291915894 (1)　result　True

spk1　786 spk2　554　pred　0.5263832807540894 (0)　result　True

spk1　736 spk2　736　pred　0.687791109085083 (1)　result　True

spk1 970 spk2 970   pred   0.7144427299499512 (1)   result True

spk1 559 spk2 599   pred   0.4657406508922577 (0)   result True

spk1 534 spk2 534   pred   0.6883060336112976 (1)   result True

spk1 139 spk2 918   pred   0.5395151376724243 (0)   result True

spk1 526 spk2 845   pred   0.6772167682647705 (1)   result False

spk1 741 spk2 741   pred   0.775390625 (1)   result True

spk1 929 spk2 21   pred   0.5759822726249695 (0)   result True

spk1 408 spk2 446   pred   0.49118268489837646 (0)   result True

spk1 943 spk2 899   pred   0.5083966255187988 (0)   result True

spk1 635 spk2 792   pred   0.48165374994277954 (0)   result True

spk1 368 spk2 251   pred   0.43765023350715637 (0)   result True

Authenticate checking

1)Mitran Enrollment kamalesh login

Speech :

bin blew at af do now psbin

Lip :blue with y tooo soon

Otp :bin blue at f two now

[tensor([0.0632]), tensor([0.0184]), tensor([0.0801]), tensor([0.0854]), tensor([0.0388]), tensor([0.0274])]

Speech: 0.8372093023255814 lip 0.6666666666666666 speaker   tensor([0.0854])

2) Kamalesh Enrollment kamalesh login

Speech :

bin blew at af do now psbin

Lip :blue with y tooo soon

Otp :bin blue at f two now

[tensor([0.6018]), tensor([0.7165]), tensor([0.5441]), tensor([0.4986]), tensor([0.5121]), tensor([0.5217]), tensor([0.5954]), tensor([0.5316])]

Speech: 0.8372093023255814 lip 0.6666666666666666 speaker   tensor([0.7165])

3) Kamalesh Enrollment kamalesh login speaking different otp

said green by exiro again bdsen gree it l twr again bin blue at f two now

[tensor([0.6754]), tensor([0.6336]), tensor([0.6516]), tensor([0.4429]), tensor([0.5858]), tensor([0.5433]), tensor([0.5781]), tensor([0.4806])]

time taken   0:02:31.348375

Speech: 0.3404255319148936 lip 0.5217391304347826 speaker   tensor([0.6754])

4) when all are wrong

Speech: 0.3404255319148936 lip 0.5217391304347826 speaker   tensor([0.0951])

time taken   for Authentication   0:02:25.024136