

Training Image Preparation Stage
(Performed Offline)

Training Images

Eye Corners

Lowpass

Resample

Test Image

Test Image Preparation Stage
(Performed once)

Face Detector

τ_0

Lowpass and Derivative Filters

dl/du

dl/dv

l

Resample Jacobian Images

Alignment L1

e

$d\tau$

Integrator

τ_0

τ

Iterative Alignment Stage
(Performed Individually for
each training user)

Resample Images of users with low e
to common alignment

A, b

Recognition L1

x

Classification

User Identity

Recognition Stage
(Performed Once)