

Training Documents
e.g. 2-10 min Input

Testing Documents
e.g. 20s Input

Noise
Elimination

Word
Segmentation

Sample
Generation

Data Processing

Kinetics Feature
Extraction

Features each
points

Feature Extraction at Frame Level

Component
Generation

Component

Component
Quantization

Component
Vocabulary

Feature Extraction at Component Level

Component
Indexing

1st-order Markov
Representation

Feature Extraction at Sample Level

SVM
Training

SVM Model

User's
Identity

User Identification & Re-authentication