Computer Vision Group

Optimized matching with facial parts positions
Consistent matching is done regardless of the facial orientation
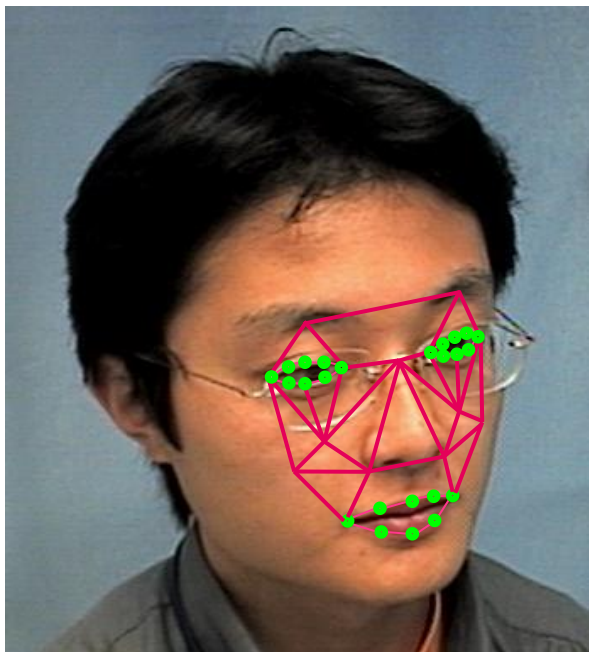
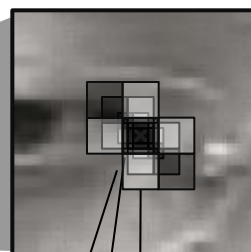Accurate eyes or mouth detection through 3D model fitting
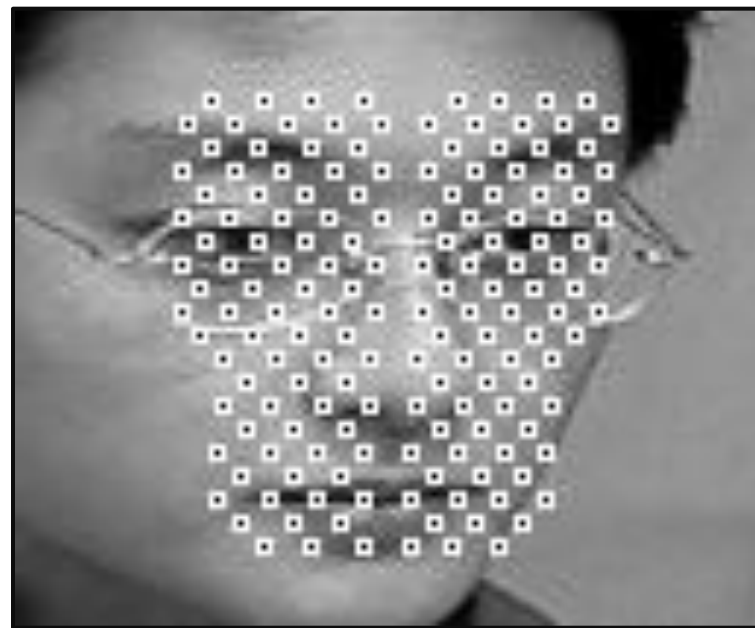
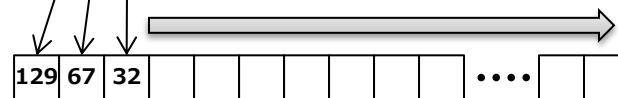Sampling positions decided by following the eyes or mouth position

OMRON

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Unique features

Grab local features at high speed

Get features on sampling positions

Get features for each sampling location

| 129 | 67 | 32 | | | | | | | | •••• | | |

Stronger short edge

Weaker long edge

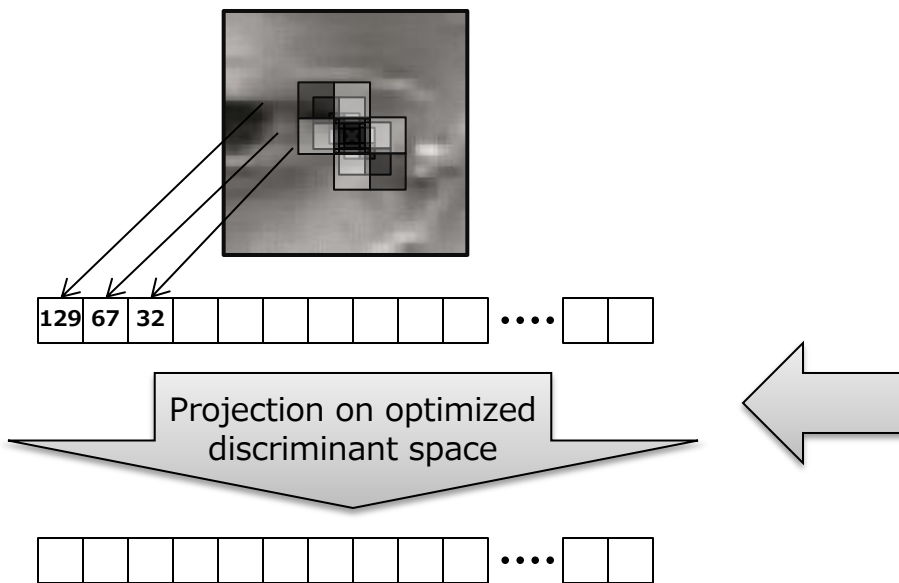Sampling positions decided by following the facial parts points position

Display the length and strength of the edges on each sampling position

confidential

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Optimized discriminant space method

Use a large amount of learning data to know how to differentiate people

| 129 | 67 | 32 | | | | | | | | .... | | |

Projection on optimized discriminant space

Optimized features
to differentiate people

Learning from over 6 million images

The projection method is different from standard differentiation methods and unique to OMRON

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Optimized discriminant space method

Use a large amount of learning data to know how to differentiate people

Learning data includes a vast number of people with a multiple of variations

Learning focused on how to differentiate common and unique features between people

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Verification within discriminant space method

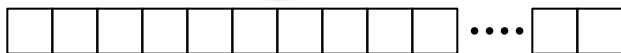## Verification with optimized features to differentiate people

Extract local features of same positions through optimized facial parts points position matching

Grab local features at high speed through unique features

Projection on optimized discriminant space

Projection on optimized discriminant space

Verification