Strategies for improving own-and other-race face recognition with learning context and multiple image training

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Goals

Improve own- and other-race face recognition accuracy using:
• Learning variability
• Learning context

Background

Image variability
• Multiple variable > repeated exposures
Learning context
• Distributed learning > contiguous learning
Other-Race Effect (ORE)
• Greater recognition accuracy for own-race faces than other-race faces
• Previous paradigms with own- and other-race faces and variable images

Hypotheses

Face recognition accuracy:
• Own-race > other-race
• Distributed learning > contiguous learning
• Multiple image learning > single image learning

Approach

Multiple image training
Learning context
• Distributed vs contiguous

Experiment 1: Learning Context - Multiple Images

Methods

Training Phase: 36 identities (18 East Asian / 18 Caucasian)

Testing Phase: 72 identities (36 East Asian / 36 Caucasian)

Results

Learning Context

Participant Race

Cross-Experiment Analysis

Conclusions

• Distributed learning is beneficial, but only when images are easily groupable by identity.
• Multiple image learning is beneficial for both own- and other-race faces.
• The other-race effect is not eliminated by multiple image training.

References and Acknowledgement

Keywords: ORE, Race Bias, Face Recognition, Learning Context, Multiple Image Training.

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Experiment 2: Learning Context - Single Images

Training Phase: 36 identities (18 East Asian / 18 Caucasian)

Results

Learning Context

Participant Race

Future Studies

• Can we improve distributed, multiple image training by providing an identity cue (name)?