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Information Maximization in Face Processing

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Abstract

This talk explores principles of unsupervised learning and how they may relate to face recognition. Dependency coding and information maximization appear to be central principles in neural coding early in the visual system. These principles may be relevant to how we think about higher visual processes such as face recognition as well. The talk first reviews examples of dependency learning in biological vision, along with principles of optimal information transfer and information maximization. The talk then explores studies of human face perception from an information maximization perspective. We suggest that dependency learning is relevant to human face perception as well, and present an information maximization account of perceptual effects such as the atypicality bias, and face adaptation aftereffects.