

Lecture 11: Computer Vision, Object Detection

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Description

We discuss ongoing research in object detection and computer vision at CBCL, with a focus on face detection and recognition. We examine in detail the problem of face detection with SVMs, contrasting the use of global and component-based classifiers, pixel and wavelet-based representations, and real and synthetic training data. We also present a real-time SVM-based face recognition system, discussing the technologies and challenges involved.

Suggested Reading

- Heisele, Ho and Poggio. **Face Recognition with Support Vector Machines: Global Versus Component-based Approach.** International Conference on Computer Vision (ICCV '01), Vancouver, Canada, Vol. 2, 688-694, 2001. Heisele, Serre, Pontil and Poggio. **Component-based Face Detection.** Proceedings of 2001 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR 2001), IEEE Computer Society Press, Kauai, Hawaii, Vol. 1, 657-662, December 2001. Blanz and Vetter. **A Morphable Model for the Synthesis of 3D Faces** SIGGRAPH'99 Conference Proceedings, 187-194.
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