



BATCH : BATCH 168 DATA SCIENCE
LESSON : DEEP LEARNING
DATE : 31.01.2024
SUBJECT : VIOLA JONES



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VIOLA-JONES



VIOLA JONES



Paul Viola

2001



Michael Jones



VIOLA JONES





COMPUTER VISION

Viola Jones Başarılı Tespit Adımları



Viola Jones Başarısız Tespit Adımları



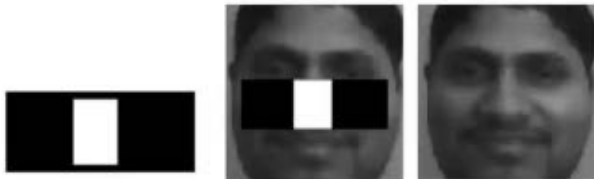


VIOLA-JONES

HAAR-LIKE FEATURES



This Haar-like feature identifies the eye region



Source: <http://www.cs.cmu.edu/~jones/>

Data Set



Eigenfaces



**AdaBoost
Algorithm**



VIOLA JONES

The Viola-Jones Algorithm



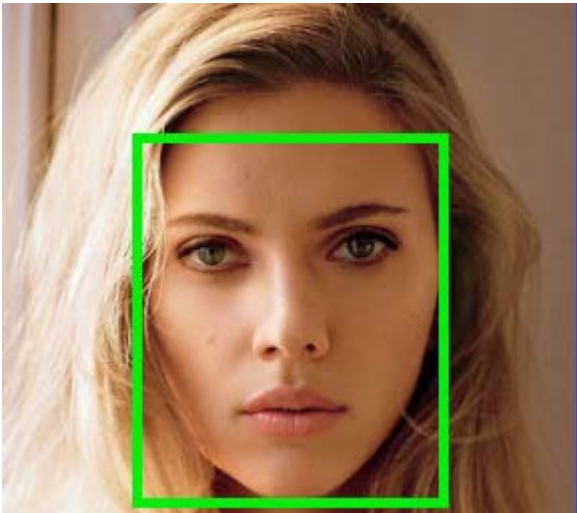
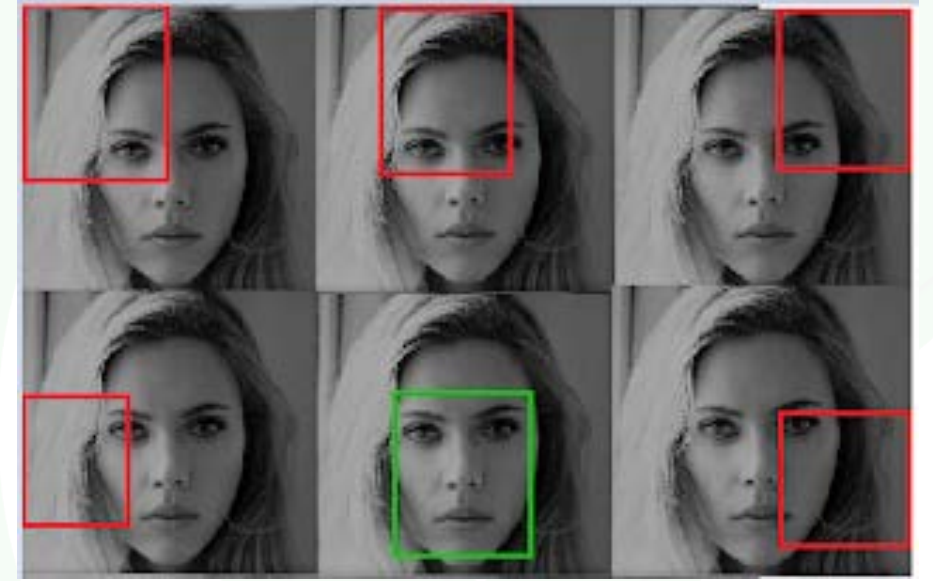
Training



Detection

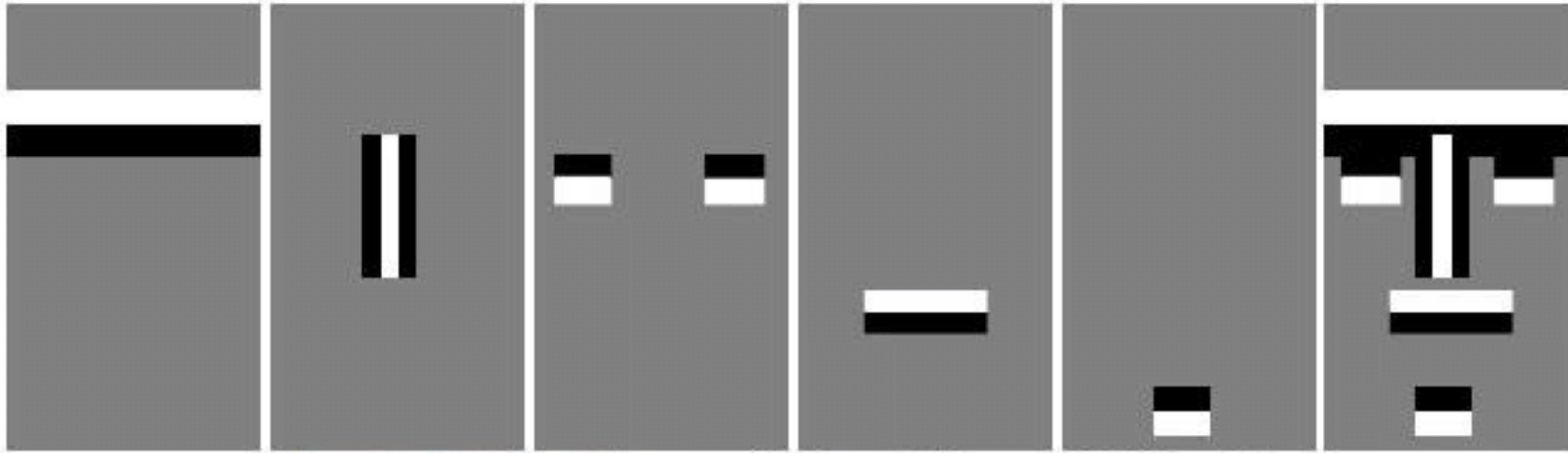


VIOLA JONES



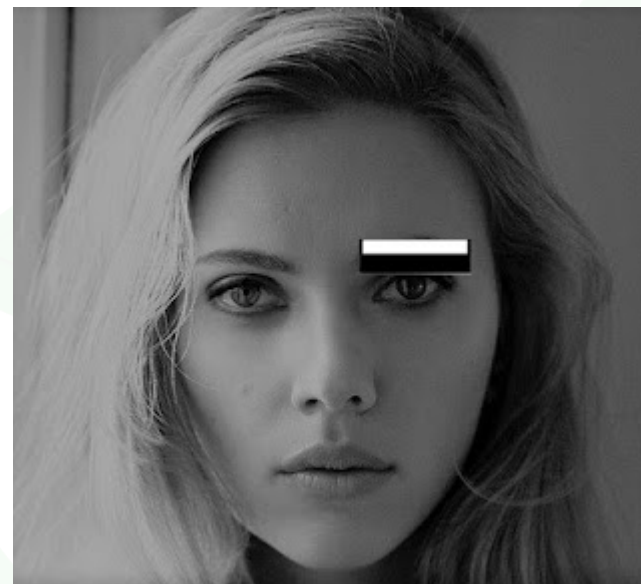
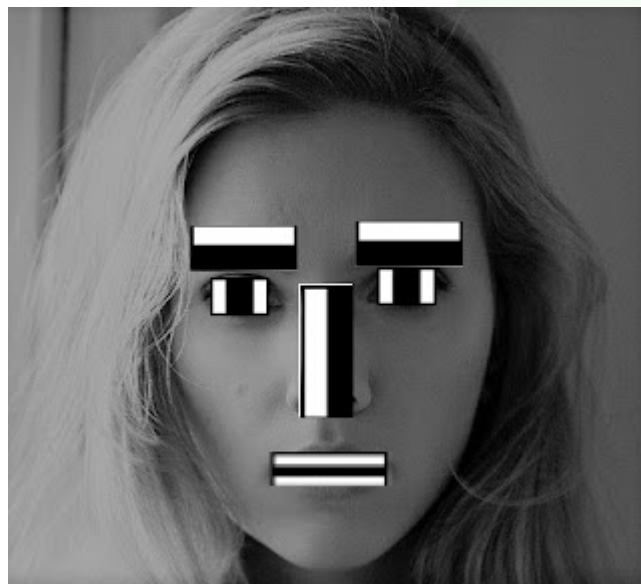
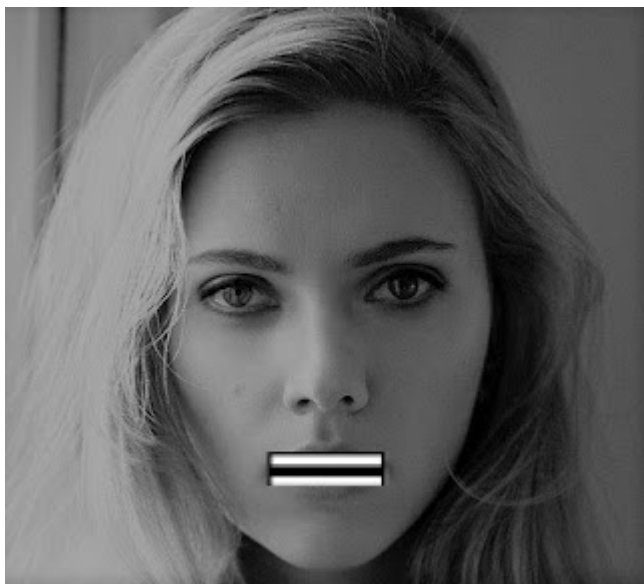


HAAR-LIKE FEATURES





HAAR-LIKE

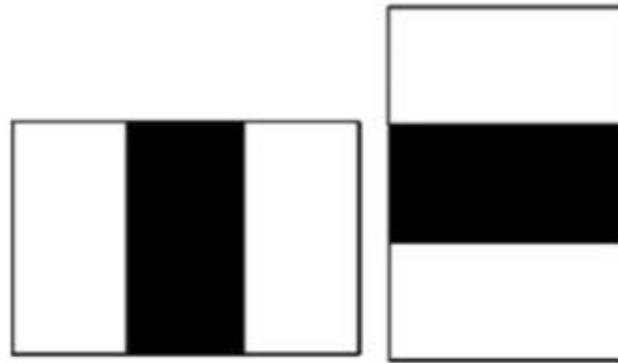




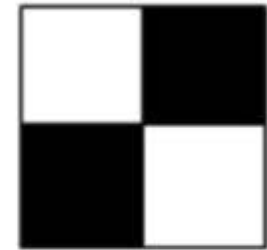
HAAR-LIKE FEATURES



Edge Features



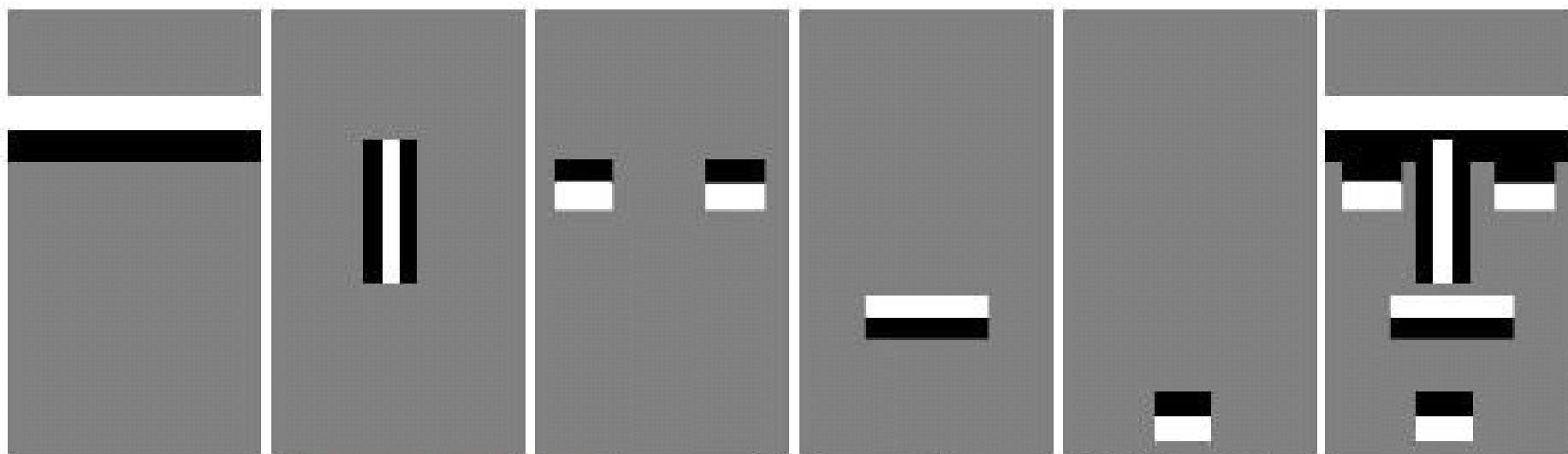
Line Features



Four-rectangle
Features

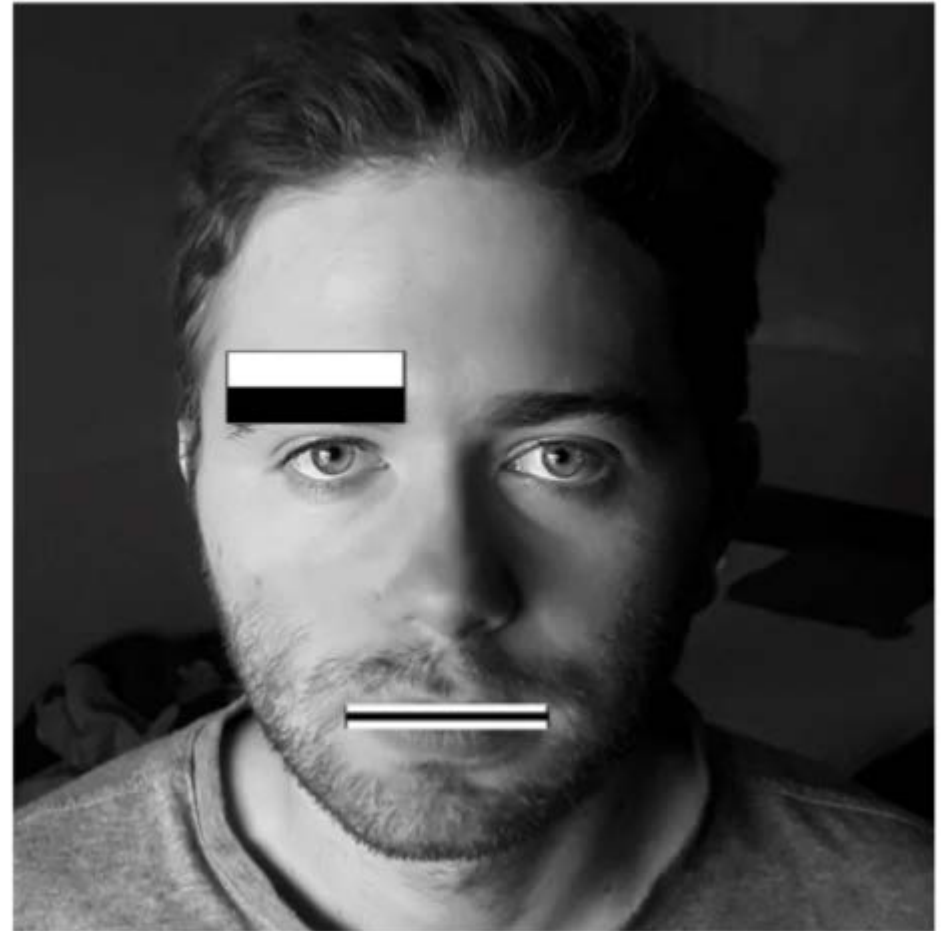


HAAR-LIKE FEATURES



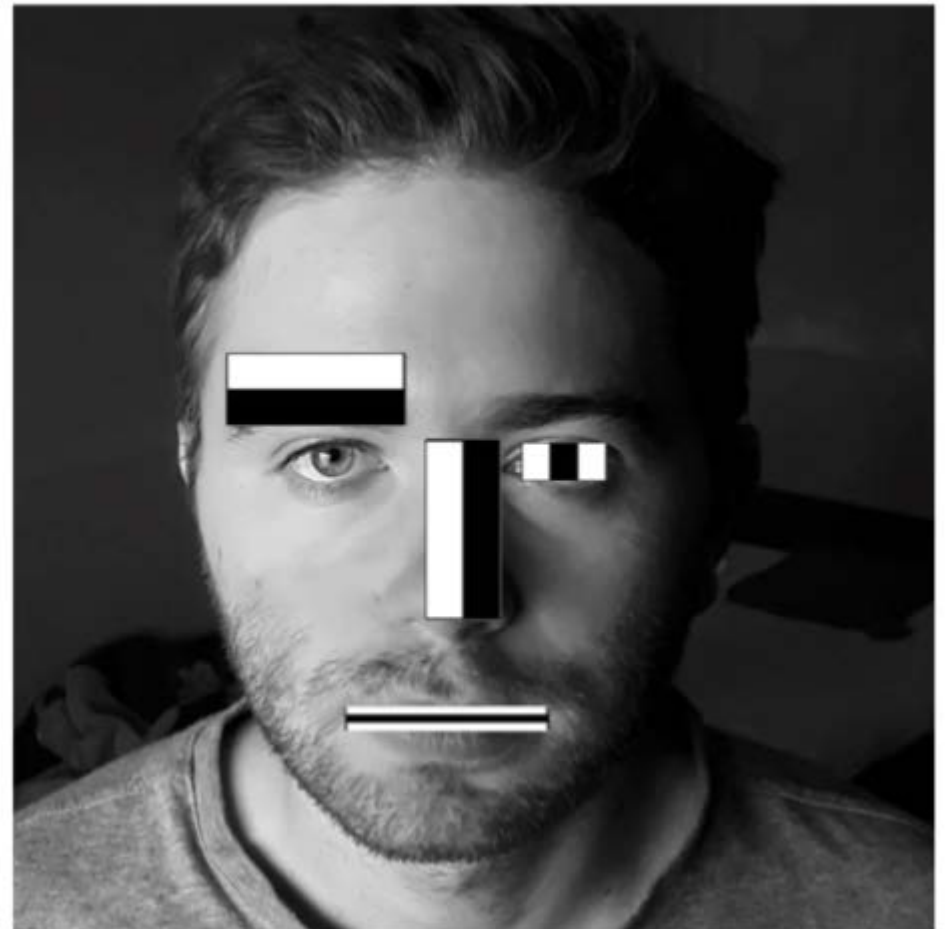
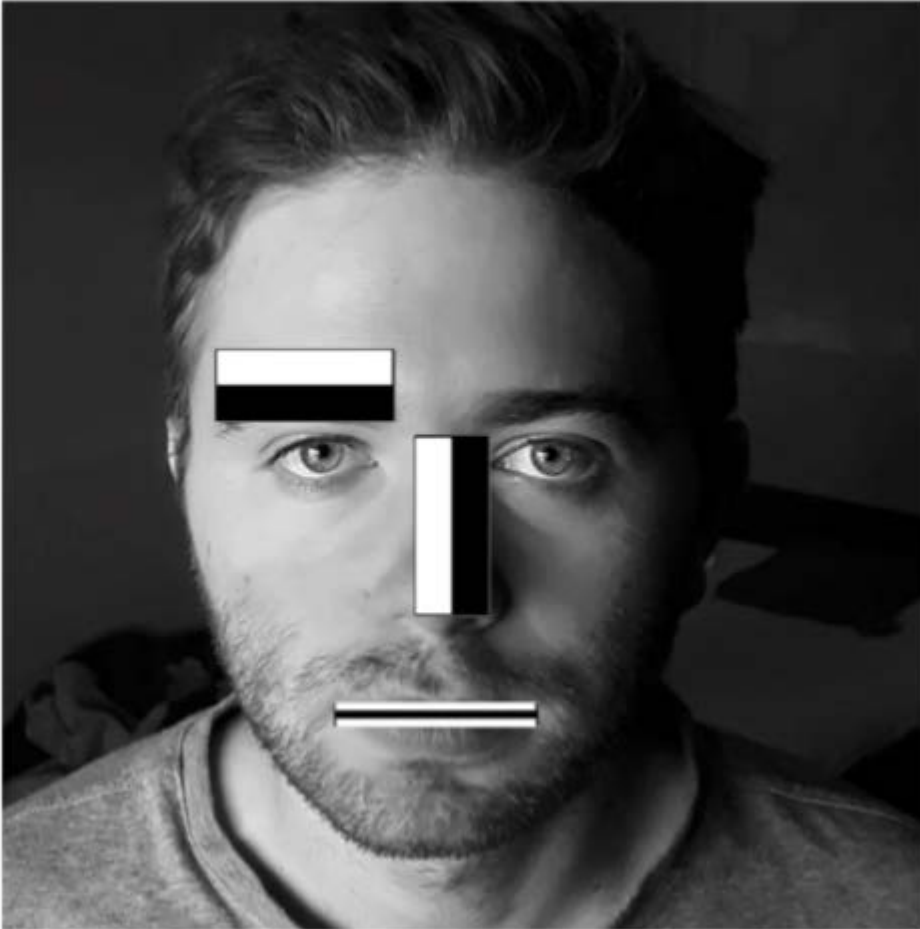


HAAR-LIKE FEATURES



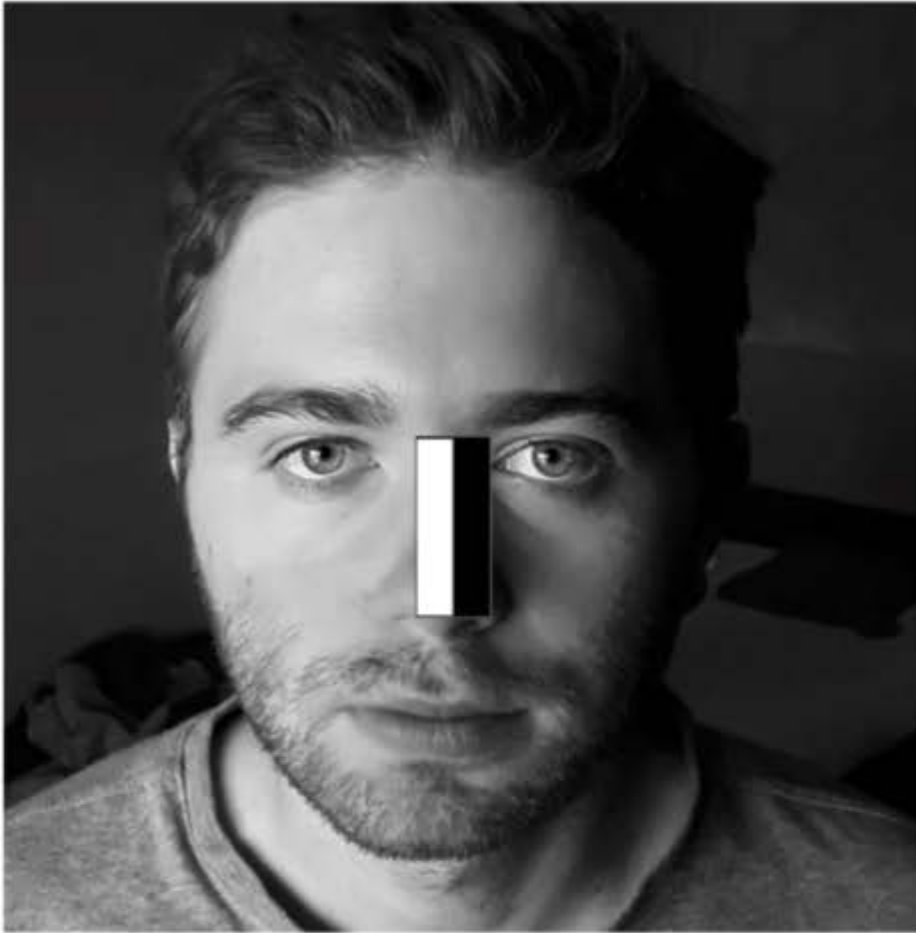


HAAR-LIKE FEATURES





HAAR-LIKE FEATURES



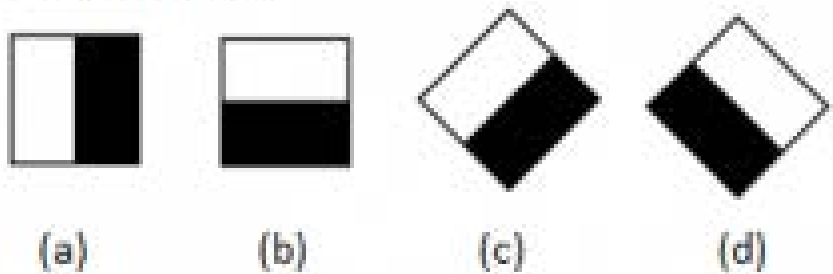
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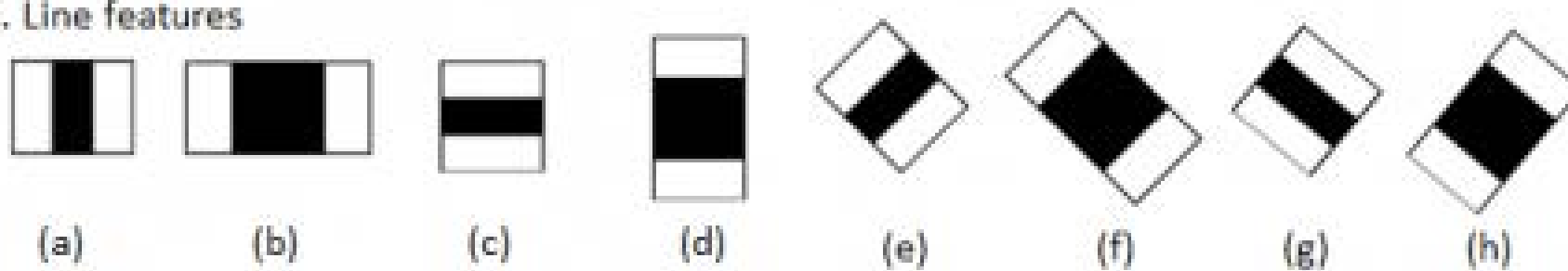


HAAR-CASCADE

1. Edge features



2. Line features



3. Center-surround features





HAAR-CASCADE

