Rough summary of previous approaches and limitations. (a few bullet points 2~3).

* Edge-orientation detection based on local image features; non deep learning method

Fröba B., Külbeck C. (2001) Real-Time Face Detection Using Edge-Orientation Matching. In: Bigun J., Smeraldi F. (eds) Audio- and Video-Based Biometric Person Authentication. AVBPA 2001. Lecture Notes in Computer Science, vol 2091. Springer, Berlin, Heidelberg

* Cascade of image classifiers based on visual features with boosting; non deep learning method.

Robust Real-Time Face Detection

PAUL VIOLA

Microsoft Research, One Microsoft Way, Redmond, WA 98052, USA

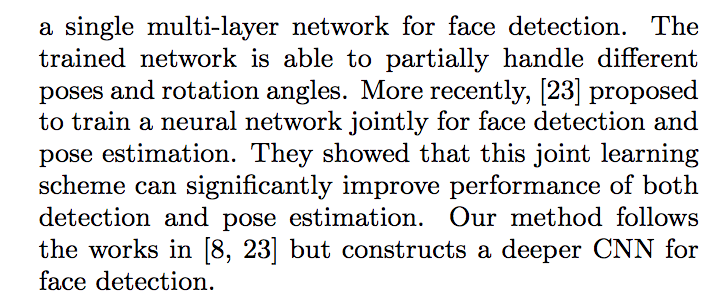
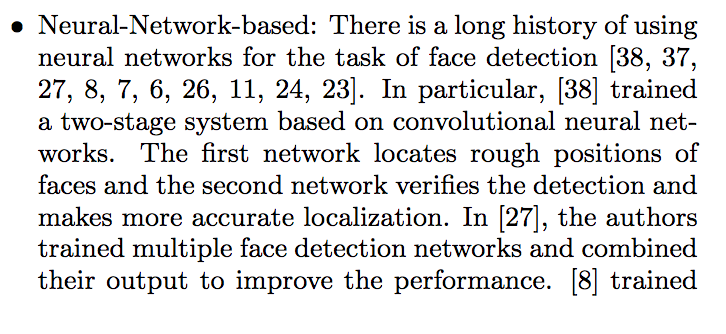
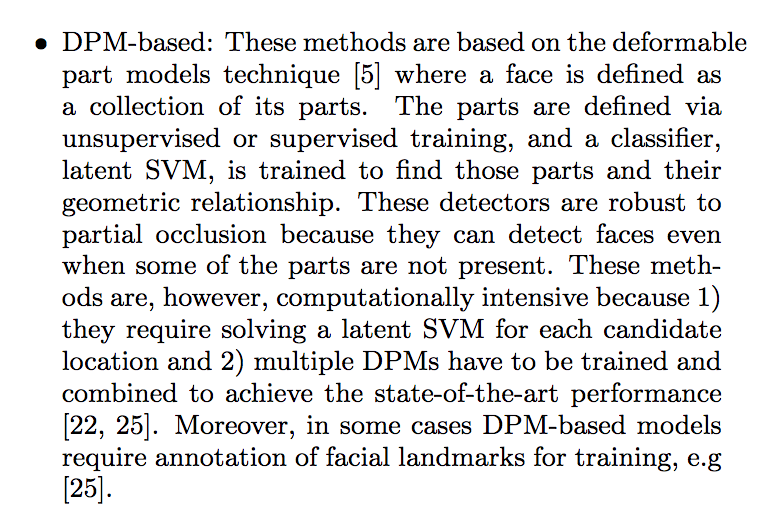
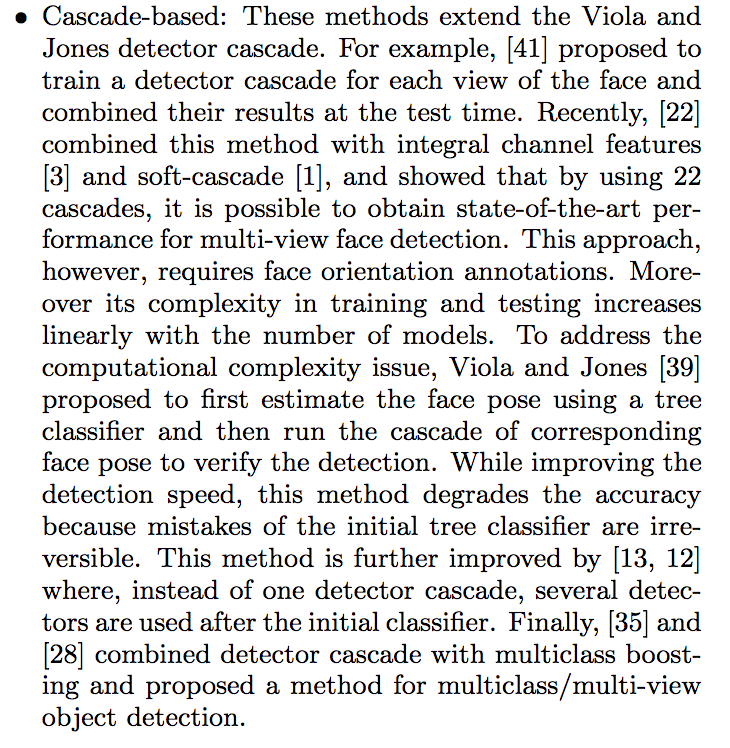
viola@microsoft.com

MICHAEL J. JONES

Mitsubishi Electric Research Laboratory, 201 Broadway, Cambridge, MA 02139, USA

mjones@merl.com

Received September 10, 2001; Revised July 10, 2003; Accepted July 11, 2003

chrome-extension://oemmndcbldboiebfnladdacbdfmadadm/http://delivery.acm.org/10.1145/2750000/2749408/p643-farfade.pdf?ip=171.66.208.145&id=2749408&acc=ACTIVE%20SERVICE&key=AA86BE8B6928DDC7%2E0AF80552DEC4BA76%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35&CFID=944918259&CFTOKEN=24250925&\_\_acm\_\_=1496707375\_3086c3e2ace5d3b74854fb912573f0be