Computer Vision Project (Part 2)

COMP9517 - Semester 1, 2015

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1 Overview

2 Problem Statement

Need to nail down a subset the below problems.

- Detecting the fact or state of one or more faces appearing in a digital image
- Face verification - confidence score of similarity between faces (biometric security)
- Facial search engine - searching a database of images or videos against a query face.
- Head pose estimation
- Unsupervised learning - Clustering faces given a number of faces
- Supervised learning - classification problems depending on availability of labeled images
  - Age, Gender
  - Mood
  - Attractiveness (could build a service that leverages Tinder API, where our software creates a database of attractive and unattractive faces based on right and left swipes respective by computing eigenfaces, and then automates swipes once enough examples have been seen)

3 Literature Survey

Cited works [Litvin et al., 2003, Battiato et al., 2007, Grundmann et al., 2011, Liu et al., 2009, Matsushita et al., 2006]

4 Approach

- feature-based
- template-based
- appearance-based

5 Plan

Week 9
Do stuff

Week 10
Do stuff

Week 11
Do stuff

Week 12
Do stuff

Week 13
Do more stuff ...

References

Sebastiano Battiato, Giovanni Gallo, Giovanni Puglisi, and Salvatore Scellato. Sift features tracking for video stabilization. In *Image Analysis and Processing, 2007. ICIAP 2007. 14th International Conference on*, pages 825–830. IEEE, 2007.

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