



Universität
Basel

Research Project

Automatic Face Image Analysis

Project funded by own resources

Project title Automatic Face Image Analysis

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Organisation / Research unit

Departement Mathematik und Informatik / Computergraphik Bilderkennung (Vetter)

Project start 01.01.2008

Probable end 31.12.2018

Status Completed

We use the 3DMM to analyze images of human faces in an Analysis-by-Synthesis manner. The model is used to actively reconstruct the 3D shape of the depicted faces from a single image. This analysis task is one of the main applications of the Morphable Model of faces since the beginning. But so far, the analysis needed manual user intervention to initialize the model appropriately. An automatic initialization is possible using face and feature point detection technology but it has always been unreliable for non-frontal faces. In this project focus, we develop detection methods which can deal with non-frontal situations. To deal with unreliable input information, we directly integrate detection information into our probabilistic Markov Chain Monte Carlo model fitting method. The method is based on a propose-and-verify architecture which can deal with unreliable information by separating proposals from their verification with the generative model.

Financed by

University funds

Other funds

Add publication

Published results

110087, Paysan, Pascal; Knothe, Reinhard; Amberg, Brian; Romdhani, Sami; Vetter, Thomas, A 3D Face Model for Pose and Illumination Invariant Face Recognition, Publication: ConferencePaper (Artikel, die in Tagungsbänden erschienen sind)

2315088, Zivanov, Jasenko; Forster, Andreas; Schoenborn, Sandro; Vetter, Thomas, Human face shape analysis under spherical harmonics illumination considering self occlusion, Publication: ConferencePaper (Artikel, die in Tagungsbänden erschienen sind)

2332543, Schönborn, Sandro; Forster, Andreas; Egger, Bernhard; Vetter, Thomas, A Monte Carlo strategy to integrate detection and model-based face analysis, 978-3-642-40601-0, Pattern recognition, 35th German conference, GCPR 2013, Publication: Book Item (Buchkap., Lexikonartikel, jur. Kommentierung, Beiträge in Sammelbänden etc.)

Add documents

Specify cooperation partners