

Design and implementation of an automatic face-image data acquisition system using ip based multi camera

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Abstrak

Current research trends in 3D Face recognition system requires a special hardware for fast capturing face image data from multi angle view. To support this research, we had designed and implemented an automatic image data acquisition system using multi-camera for capturing facial images from 50 different angle views, which spanned horizontally from 180° from left to right, and vertically from horizontal up to 70° above the face. The system was designed using 30 IP cameras that were mounted on two rigid steel arms that had the form of three quarter of a circle, the two steel arms formed the angle of 90° to each other. At each arm, 15 IP cameras were mounted with 50 spacing vertically to each others. This arm was driven by a DC motor which was controlled by a microcontroller and supervised directly by a laptop computer along with the data acquisition activities. The software for capturing images was designed using C# GUI programming language. The system had been working in good condition and image-data were saved in JPEG format. Time duration of capturing images data for one object face expression with 30 times capturing for the whole angle views, was only 3 minutes 44.5 seconds with total number of 16,650 images collected. The delay time between two cameras capturing was less than 1 sec. This project is aimed to support the 3D face recognition research in the department