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 5o different angle views, which spanned horizontally from 180° from left to right, and vertically from horizontal up to 70o 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 5o 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