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AI312: Reasoning and Knowledge Representation

Facial Recognition Mini-Project

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Introduction

A typological fuzzy logic controller for face recognition is provided in this article. The identification process of an individual's face can be summarized in three phases: face detection, extraction and face recognition. In this system only the last phase is concerned; i.e. the human being's face acknowledgement. In this article we propose a system of fluffy inference It only manages the process of facial recognition. The reason we decided to address the recognition of the face Fuzzy inference problem is that the use of Fuzzy Set Theory allows us to collect, classify and classify our training information intuitively, The fuzzy system of inference (i.e. if-then rules structure) provides us with an intuitive thinking imitating human thinking.

Project idea / description

The process of face recognition can be divided into four steps abstractly:

- Face detection; where the human face is found from the embarrassing scene after the image is captured.
- Image normalization where the image should be standardised in relation to the images stored in the database, by size, lights, orientation, scale, pose... etc. This is an essential step in the process of recognition, as face recognition is not a successful process if there is no more or less identical properties of the sample image to the image characteristics stored in the database.

- Extraction of the feature; where unique facial features for recognition are extracted.
- Facial recognition or verification; if the input is unknown, the system is responsible to find a match (i.e. to identify who the individual is) between the system's already known faces. During the check, the input face of a particular person is claimed to be and the system is responsible for either Check or deny according to studies the claimed identity of that input face