Application of Fuzzy Decision on Lighting

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Emotional lighting controlled by fuzzy logic is based upon digital technology. Since Professor Lotfi A. Zadeh introduced fuzzy logic in 1965 [1], fuzzy control has extensively been used in a range of devices in engineering, science, business, medicine and psychology fields, and include, flight control, motor control, traffic signal control, controllers to adjust the brightness of television sets, lighting control systems in buildings and fuzzy cameras [2]. It is important to define precisely what a virtual image is, namely, a system that uses diffraction of laser diode light to construct light wave fronts associated with a desired visual scene.

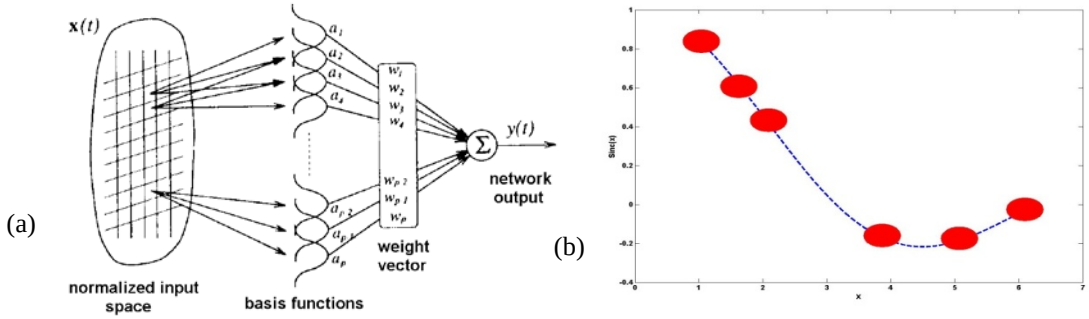

Fig. 1. (a)The model of membership function (b) controlled pixels as a function of random paths

Today, there exists various ways to use fuzzy logic to improve industrial control [3].Conventional lighting control systems provide numerous methods for constructing controllers for dynamic systems, including manual or classical control, optional control and robot control. These approaches offer a variety of ways to utilize information from models in achieving good control on lighting.

The fuzzy controller is composed of the following four elements: A rule-base (a set of If-Then rules), an inference mechanism, a fuzzification interface and a defuzzification interface. In this study we require performance evaluation to test the control of the closed-loop specifications. In lighting control systems both hardware and software are required in constructing the desired virtual image from a natural image.

The model in Fig. 1 depicts all the characteristics of all data gathered in a microprocessor and which are then moved to their group based upon their features such as color. A motion capture path requires the laser beam to be aimed through a series of elements that alters it in different ways and where each are aimed in different directions:

1. Step one: Designer chooses an area by microprocessor.
2. Step two: Designer decides to move the selected area to the other side of the stage
3. Step three: The controlled system follows the designed path

In summary, this paper aims to exhibit how fuzzy decisions can create suitable 3D attractive motion images through programming closed-loop pixels, as well as using a matrix laser or a video projector.

References

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