

CHAPTER 6

SUMMARY AND FUTURE RESEARCH

6.1 Summary and conclusions

A simple but effective fuzzy logic rule-based identifying system for photographic composition has been developed. The proposed identifying method works by extracting image features from specific *ROI*'s. These features after the normalization are adopted as the input variables of 18 identifying rules. The 8 photographic compositions are identified and give a confidence for each type. We have shown that the proposal method achieves higher efficiency not only in terms of system complexity, but also computational cost. As a result, we have successfully applied fuzzy logic to identify problems without adopting the traditional statistical or synthetic identification.

6.2 Topics for future research

In future works, we will investigate automatic methods for following two applications based on the proposed method.

- (a) *Color enhancement*: For an output photo, one uses the color enhancement to transform the color distribution for obtaining high contrast and color well-balance. However, a “blind” photo processing is employed in conventional color enhancement that does not care about weightiness of main subject and background. Since the unnecessary background also joins in image processing, the efficiency to make the main subject stand out in the photo is low. By the proposed method, the color enhancement will refer to the recognizing result and weight the different parts in the photo that the effect from the background will be neglected.
- (b) *Automatic photographic composition*: If the proposed recognizing method can be installed in the digital camera, the camera system will can provide automatically a right composition based on the recent image content. Thus, the photographer will take a high quality photo easily. This is important for a beginner of taking photograph.