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Abstract
According to the reports from the Department of Health, the Executive Yuan, Taiwan, 2006, the mortality associated with diabetes are ranked the fourth in male and the third in female among the leading causes of mortality in Taiwan. The diabetes have become a very important health issue in Taiwan. One out of five the population aged over 65 are the patients with diabetes. There are 40% to 70% of the lower limb amputation patients associated with diabetes. The infection of diabetic foot has become an important clinical issue. How to develop an infrared system to quantify the blood vessel of diabetic foot is crucial reference for clinical amputation. Therefore, this thesis we try to establish a portable image acquisition system to quantify the parameters such as invariant moments, fractal dimension and ratio of blood vessel on diabetic extremity. The developed parameters of blood vessel image can provide a useful tool for clinical diagnosis. The earlier detection and earlier treatment has become an important clinical issue.
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