



**Thesis Title** Applying of Cache Memory Management Technique in  
Algorithm Improvement for Breast Abnormality Detection

**Author** Mr. Visanu Changniam

**Degree** Master of Engineering (Computer Engineering)

**Thesis Advisor** Dr. Juggapong Natwichai

### ABSTRACT

In this thesis apply the cache-conscious to develop algorithm breast abnormality detection in mammograms using fuzzy. The development this algorithm can increase efficiency of time process and cache usage. Therefore, the most intuitive technique to be applied the blocking data technique to fit the cache size substitute the data each 35x35 pixels window size. The loop fusion technique increase efficiency by vary the size of number of window to be processed in the same loop.

This thesis to be presented cache-conscious increase efficiency algorithm breast abnormality detection in mammograms using fuzzy. The increasable efficiency used best parameter of the size of block data and number of window to be processed in the same loop to develop algorithm. The result of efficiency have the time processed decrease 60.27% clockticks event decrease 54.06% and load cache retired events decrease 57.53%. Otherwise, this thesis presented to analyze best parameter of the size of block data and number of window. Then cache-conscious can develop with finish algorithm to be increased efficiency the time processed and the cache usage.