Chapter 7

Conclusion and Future Work

7.1 CONCLUSION

There are only a few works in the literature that concentrates on retrieval of medical documents. MIR systems help people to be aware of their health. General users and medical professionals not only demand for reliable relevant information from medical information sources but also, faster and proper access to health information. However, irrelevant information retrieval issue still exists because of the diverse nature of the medical term. To overcome this issue, in this thesis few strategies to improve the accuracy of relevant document retrieval and methods to offer complete and diverse answers have been proposed.

The findings of the research work carried out are:

- The context-aware keyword generation using Wikipedia has shown good improvement on par with the other keyword generation approaches utilizing general or domain-specific ontologies.
- Annotation generation of these context-aware keywords using Wikipedia and medical ontology can cover the general and domain-specific concepts.
- Wikipedia can accurately map the ambiguous word with its sense under the context of the given document.
- The proposed Annotation-based Context-aware Indexing (ACI) achieves better result in relevant document retrieval when compared with Biomedical ontology based indexing.
- Investigational outcomes show that the hybrid neuro-fuzzy model based relevance score computation can improve the retrieval performance.
- Single medical document summarizer called Cue-Summarizer creates better summary when compared with pre-existing summarizers and Wikipedia based summarizer.
• Single medical document summarizer called BSF-Summarizer developed by using features such as sentence position, length, number of cue-words and medical acronyms can provide better results when compared with Cue-Summarizer and other pre-existing summarizers.

• Similarity between sentences is the essential feature to be considered to provide highly informative and acceptable summary.

7.2 FUTURE WORK

Further research can be carried out in the following direction,

- Concentration can be laid on user query expansion and reformulation techniques in order to further improve the effectiveness of the retrieval process as inadequate formulation of information needs lead to lack of relevant retrieved information in medical domain.

- Studies may be carried out to enable the user profile based IR.

- Proposed MIR strategies can also be explored to various other domain-specific retrieval applications.