Department of Computer Science and Engineering
Bangladesh University of Business and Technology (BUBT)

CSE 478: Literature Review Records

Student's Id and Name	**Name:** Fabia Zaman Ekah and **ID:** 19202103225
Project Title	Deep Learning in Healthcare: Breast Cancer Detection and classification using Image Processing and CNN
Supervisor Name & Designation	**Name:** Khan Md. Hasib & **Designation:** Assistant Professor, Department of CSE, BUBT
Course Teacher's Name & Designation	**Name:** Khan Md. Hasib & **Designation:** Assistant Professor, Department of CSE, BUBT

Aspects	**Paper # 2 (Title)**
Title / Question (What is problem statement?)	Breast cancer detection using machine learning approaches: a comparative study
Objectives / Goal (What is looking for?)	The main aim of the work was to predict breast cancer to be under investigation.
Methodology / Theory (How to find the solution?)	The work was divided into some phases. • Collect dataset. • Feature selection approach. • Validation methods. • Models implementation tool.
Software Tools (What program/software is used for design, coding and simulation?)	Implementation work was carried out at Intel(R) Core (TM) i7 CPU M60 @ 2.80 GHz in Jupyter.
Test / Experiment How to test and characterize the design/prototype?	Four different sets of our revised dataset have been used to train and test all classifiers. These sets are: set 1: 60% to train and 40% for test; set 2: 70% to train and 30% for test; set 3: 80% to train and 20% for test; and set 4: 90% to train and 10% for test.
Simulation/Test Data (What parameters are determined?)	Datasets was collected from - UCI machine learning repository website.
Result / Conclusion (What was the final result?)	SVM has outperformed all classifiers under all testing scenarios by obtaining classification accuracies of 97.7%, 97.5%, 97% and 97% over the four sets 80%-20%, 90%-10%, 60%-40%, and 70%-30% respectively.

Obstacles/Challenges (List the methodological obstacles if authors mentioned in the article)	Faced difficulties during data collection.
Terminology (List the common basic words frequently used in this research field)	Breast cancer detection, Deep learning, Machine learning, Classification Algorithms, Breast cancer diagnosis.
Review Judgment (Briefly compare the objectives and results of all the articles you reviewed)	• Gao et al. pointed out the potential solutions that CAD techniques can offer compared to traditional methods. Generally, the advanced development of computer techniques in machine learning, data mining, and deep learning, has playing a huge role in improving clinical care systems and supporting early diagnosis of many diseases and therefore the survival rate. • Zheng et al. outlined that neural network classifiers have become a popular method to classify cancer data.
Review Outcome (Make a decision how to use/refer the obtained knowledge to prepare a separate and new methodology for your own research project)	For my own research I would use some of the mentioned techniques.