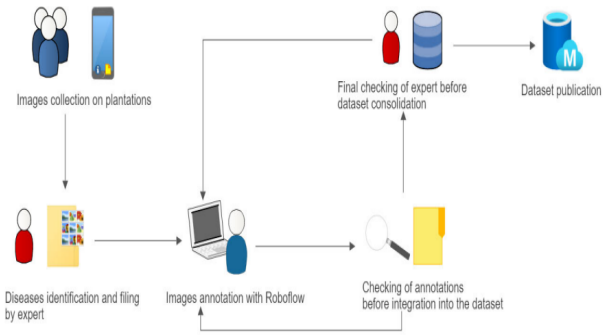
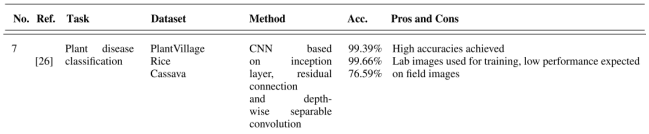
Department of Computer Science and Engineering
Bangladesh University of Business and Technology (BUBT)

CSE 498: Literature Review Records

Student's Id and Name	**Name:** Bm.Shadman Sakib Mahee and **ID:** 19201103123
Capstone Project Title	Mango Fruit Disease Detection
Supervisor Name & Designation	**Name:** M. M. Fazle Rabbi & **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 # 7 (Title)
Title / Question (What is problem statement?)	FieldPlant Dataset: Utilizing Deep Learning for Plant Disease Detection and Classification from Field Plant Images
Objectives / Goal (What is looking for?)	The objective of this study was to create a high-quality dataset for plant disease detection that includes field images with individual leaf annotation and to evaluate the performance of state-of-the-art classification and object detection models on this dataset. The goal was to provide an efficient and accurate solution for crop disease detection to help increase food supply and feed the growing world population by 2050.
Methodology / Theory (How to find the solution?)	The project was broken up into three stages: gathering and preparing the data, developing the CNN architecture, and assessing and validating the model. In order to assess the effectiveness of cutting-edge deep learning models on this dataset, a high-quality dataset for plant disease identification was created. Modern models couldn't compare to the proposed CNN architecture when it came to classification jobs.
Software Tools (What program/software is used for design, coding and simulation?)	TensorFlow, Keras, OpenCV, sci-kit-learn, NumPy, Jupyter Notebook
Test / Experiment How to test and characterize the design/prototype?	
Simulation/Test Data (What parameters are determined?)	6334 Images
Result / Conclusion (What was the final result?)	
Obstacles/Challenges (List the methodological obstacles if authors mentioned in the article)	There were none discovered.
Terminology (List the common basic words frequently used in this research field)	Deep learning, field images, laboratory images, plant disease dataset, plant disease detection and classification

No.	Ref.	Task	Dataset	Method	Acc.	Pros and Cons
7	[26]	Plant disease classification	PlantVillage Rice Cassava	CNN based on inception layer, residual connection and depth-wise separable convolution	99.39% 99.66% 76.59%	High accuracies achieved Lab images used for training, low performance expected on field images

Review Judgment (Briefly compare the objectives and results of all the articles you reviewed)	• "Crop: Plant Disease Identification Using Mobile App" had accuracy of 97.44% in distinguishing between healthy and diseased leaves. • "Deep learning-based crop disease recognition using convolutional neural networks" had accuracy of 99.35% in distinguishing between healthy and diseased leaves.
Review Outcome (Make a decision how to use/refer the obtained knowledge to prepare a separate and new methodology for your own research project)	this paper can be an excellent resource for my future research. The study's identification of research gaps and challenges can help me focus on developing novel solutions that address these issues. Additionally, the paper's detailed description of the dataset, preprocessing steps, and CNN architecture can serve as a helpful guide in developing our own crop disease identification models. By leveraging the insights and methodologies presented in this paper, we can advance the state-of-the-art in crop disease identification and make valuable contributions to the field.