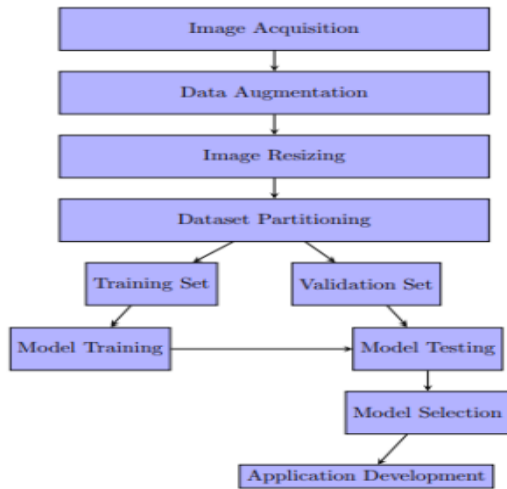



Department of Computer Science and Engineering  
Bangladesh University of Business and Technology (BUBT)



**CSE 498: Literature Review Records**

<b>Student's Id and Name</b>	<b>Name:</b> Bm.Shadman Sakib Mahee and <b>ID:</b> 19201103123
<b>Capstone Project Title</b>	Mango Fruit Disease Detection
<b>Supervisor Name &amp; Designation</b>	<b>Name:</b> M. M. Fazle Rabbi & <b>Designation:</b> Assistant Professor, Department of CSE, BUBT
<b>Course Teacher's Name &amp; Designation</b>	<b>Name:</b> Khan Md. Hasib & <b>Designation:</b> Assistant Professor, Department of CSE, BUBT

Aspects	Paper # 5 (Title)												
<b>Title / Question</b> (What is problem statement?)	Using Deep Learning and Transfer Learning Models to Identify Selected Leaf Diseases												
<b>Objectives / Goal</b> (What is looking for?)	The purpose of this article is to provide an automated method of monitoring strawberry plants by using machine learning to identify disease symptoms in their leaves from photographs. In order to detect signs of underlying diseases like deficiencies or infections, which can have catastrophic implications if not treated right once, the article underlines the significance of visually examining the state of leaves. The suggested strategy intends to assist farmers and gardeners in ongoing plant health monitoring and timely alerts about indicators of malnutrition and infectious illnesses, hence lowering the danger of spread and increasing plant yield.												
<b>Methodology / Theory</b> (How to find the solution?)	 <pre>graph TD     A[Image Acquisition] --&gt; B[Data Augmentation]     B --&gt; C[Image Resizing]     C --&gt; D[Dataset Partitioning]     D --&gt; E[Training Set]     D --&gt; F[Validation Set]     E --&gt; G[Model Training]     F --&gt; H[Model Testing]     G --&gt; H     H --&gt; I[Model Selection]     I --&gt; J[Application Development]</pre>												
<b>Software Tools</b> (What program/software is used for design, coding and simulation?)	Python, TensorFlow, Keras, OpenCV, sci-kit-learn, NumPy, Jupyter Notebook												
<b>Test / Experiment</b> How to test and characterize the design/prototype?	 <pre>graph LR     A([Open the App]) --&gt; B([Place the camera on the plants leave])     B --&gt; C([Get details on the leaf's health status])</pre>												
<b>Simulation/Test Data</b> (What parameters are determined?)	<table><tr><th>Image Type</th><th>Class Label</th><th>Number of Images</th></tr><tr><td>Strawberry healthy leaf</td><td>C2</td><td>456</td></tr><tr><td>Strawberry scorched leaf</td><td>C3</td><td>1109</td></tr></table>	Image Type	Class Label	Number of Images	Strawberry healthy leaf	C2	456	Strawberry scorched leaf	C3	1109			
Image Type	Class Label	Number of Images											
Strawberry healthy leaf	C2	456											
Strawberry scorched leaf	C3	1109											
<b>Result / Conclusion</b> (What was the final result?)	<table><tr><th>Algorithm</th><th>CNN</th><th>SVM</th><th>Transfer Learning</th></tr><tr><td>Training accuracy</td><td>96.47%</td><td>96.12%</td><td>99.97%</td></tr><tr><td>Test accuracy</td><td>95.77%</td><td>93.12%</td><td>97.35%</td></tr></table>	Algorithm	CNN	SVM	Transfer Learning	Training accuracy	96.47%	96.12%	99.97%	Test accuracy	95.77%	93.12%	97.35%
Algorithm	CNN	SVM	Transfer Learning										
Training accuracy	96.47%	96.12%	99.97%										
Test accuracy	95.77%	93.12%	97.35%										
<b>Obstacles/Challenges</b> (List the methodological obstacles if authors mentioned in the article)	No difficulties were discovered.												
<b>Terminology</b> (List the common basic words frequently used in this research field)	convolutional neural network, transfer learning, leaf disease detection, image classification												

<p><b>Review Judgment</b> (Briefly compare the objectives and results of all the articles you reviewed)</p>	<ul style="list-style-type: none"> <li>• "Identification of sunflower seeds with deep convolutional neural networks. Journal of Food Measurement and Characterization" had accuracy of 95% in distinguishing between healthy and diseased leaves of sunflowers using DCNN.</li> <li>• "Potato leaf diseases detection using deep learning" had 97.8% of accuracy using Transfer Learning</li> </ul>
<p><b>Review Outcome</b> (Make a decision how to use/refer the obtained knowledge to prepare a separate and new methodology for your own research project)</p>	<p>This study can help me with my subsequent research in this field by pointing up problems and knowledge gaps. The dataset, preprocessing techniques, and model architecture utilized for crop disease identification are all described in the study. This information can serve as a guidance for me as I create my own crop disease identification models.</p>