

Model Development Phase Template

Date	15 March 2024
Team ID	SWTID1719937289
Project Title	WCE Curated Colon Disease Classification using Deep Learning
Maximum Marks	5 Marks

Model Selection Report

In the model selection report for future deep learning and computer vision projects, various architectures, such as CNNs or RNNs, will be evaluated. Factors such as performance, complexity, and computational requirements will be considered to determine the most suitable model for the task at hand.

Model Selection Report:

Model	Description	Performance Metric (e.g., Accuracy, F1 Score)																																													
VGG16	VGG16 is used in wireless capsule endoscopy (WCE) for colon disease prediction by classifying and detecting abnormalities in endoscopic images. Its ability to extract detailed features from images helps in identifying conditions like polyps, ulcers, and tumors with high accuracy, aiding in early diagnosis and treatment.	<p>Accuracy score =82%</p> <p>▼ Evaluate the Model on Test Data</p> <pre>[17] loss, accuracy = model.evaluate(test_data, steps=len(test_data)) print(f"Test Loss: {loss}") print(f"Test Accuracy: {accuracy}")</pre> <p>25/25 — 9s 337ms/step - accuracy: 0.8288 - loss: 0.4570 Test Loss: 0.4621967077255249 Test Accuracy: 0.8187500238418579</p> <p>Overall Accuracy: 0.8187 0_normal Accuracy: 1.0000 1_ulcerative_colitis Accuracy: 0.5400 2_polyps Accuracy: 0.7750 3_esophagitis Accuracy: 0.9600</p> <table><tr><th colspan="5">Classification Report:</th></tr><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr><tr><td>0_normal</td><td>0.89</td><td>1.00</td><td>0.94</td><td>200</td></tr><tr><td>1_ulcerative_colitis</td><td>0.81</td><td>0.54</td><td>0.65</td><td>200</td></tr><tr><td>2_polyps</td><td>0.63</td><td>0.78</td><td>0.69</td><td>200</td></tr><tr><td>3_esophagitis</td><td>0.98</td><td>0.96</td><td>0.97</td><td>200</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.82</td><td>800</td></tr><tr><td>macro avg</td><td>0.83</td><td>0.82</td><td>0.81</td><td>800</td></tr><tr><td>weighted avg</td><td>0.83</td><td>0.82</td><td>0.81</td><td>800</td></tr></table>	Classification Report:						precision	recall	f1-score	support	0_normal	0.89	1.00	0.94	200	1_ulcerative_colitis	0.81	0.54	0.65	200	2_polyps	0.63	0.78	0.69	200	3_esophagitis	0.98	0.96	0.97	200	accuracy			0.82	800	macro avg	0.83	0.82	0.81	800	weighted avg	0.83	0.82	0.81	800
Classification Report:																																															
	precision	recall	f1-score	support																																											
0_normal	0.89	1.00	0.94	200																																											
1_ulcerative_colitis	0.81	0.54	0.65	200																																											
2_polyps	0.63	0.78	0.69	200																																											
3_esophagitis	0.98	0.96	0.97	200																																											
accuracy			0.82	800																																											
macro avg	0.83	0.82	0.81	800																																											
weighted avg	0.83	0.82	0.81	800																																											