Rubric for Deep Learning Model Development and Analysis Assignment

Total Marks: 100 (Coding: 75, Problem Analysis: 25)

Part 1: Deep Learning Model Development (Coding – 75 marks)

Criterion	Excellent (Full Marks)	Good (Mid Marks)	Fair (Low Marks)	Poor (Minimal Marks)	Marks
Dataset Selection, Justification, and Complexity (15 marks)	**13-15:** Dataset is highly relevant, up-to-date, aligns with trends, and is complex. Clear and detailed justification provided.	**10-12:** Dataset is mostly relevant, moderately complex, and justification is adequate.	**6-9:** Dataset is simple, outdated, or vaguely justified.	**0-5:** Dataset is irrelevant, outdated, or poorly chosen. No justification provided.	**/15**
Code Functionality (30 marks)	**27-30:** Code runs without errors, fully implements the model, and achieves accurate results aligned with objectives.	**22-26:** Code runs with minor issues or inaccuracies.	**15-21:** Code runs but has significant issues or partially incorrect results.	**0-14:** Code fails to run or meet objectives.	**/30**
Code Quality and Readability (15 marks)	**13-15:** Code is clean, well-organized, follows conventions (naming, modularity), and includes comprehensive comments.	**10-12:** Code is mostly clean and organized, with minor inconsistencies or incomplete comments.	**6-9:** Code is messy or inconsistent and lacks sufficient comments or documentation.	**0-5:** Code is poorly organized, hard to follow, and missing comments or documentation.	**/15**
Model Design and Implementation (20 marks)	**18-20:** Model is creatively designed, appropriate for the task, and incorporates modern techniques (e.g., transfer learning).	**14-17:** Model design is mostly appropriate but lacks advanced techniques or has minor inefficiencies.	**10-13:** Model is partially appropriate, with clear flaws in architecture or hyperparameters.	**0-9:** Model is poorly designed and does not align with the task requirements.	**/20**
Data Preprocessing and Handling (10 marks)	**9-10:** Preprocessing is thorough and appropriate (e.g., normalization, augmentation) with advanced	**7-8:** Preprocessing is mostly correct but lacks optimizations or misses minor steps.	**5-6:** Preprocessing is minimal or partially correct for parts of the data.	**0-4:** No or poorly implemented preprocessing.	**/10**

Criterion	Excellent (Full Marks)	Good (Mid Marks)	Fair (Low Marks)	Poor (Minimal Marks)	Marks
	techniques if needed.				
Testing, Evaluation, and Visualization (10 marks)	**9-10:** Model performance is evaluated with appropriate metrics and well-documented visualizations (e.g., loss curves).	**7-8:** Evaluation and visualization are mostly correct but lack depth or clarity.	**5-6:** Basic or incomplete evaluation, with minimal visualizations.	**0-4:** No evaluation or visualization provided.	**/10**
Framework Description (10 marks)	**9-10:** Framework is clearly described with detailed text or an insightful flowchart of the entire process.	**7-8:** Framework is adequately described but lacks some details or clarity.	**5-6:** Framework description is vague or incomplete.	**0-4:** No framework description provided.	**/10**
Innovation and Creativity (Optional – 5 marks)	**5:** Highly creative or innovative solution, such as using advanced techniques or novel approaches.	**3-4:** Includes creative elements but lacks depth or uniqueness.	**1-2:** Standard solution with minimal creativity.	**0:** No attempt at creativity or innovation.	**/5**

Part 2: Problem Analysis (25 marks)

Criterion	Excellent (Full Marks)	Good (Mid Marks)	Fair (Low Marks)	Poor (Minimal Marks)	Marks
Model Performance Analysis (6 marks)	**5-6:** Clear and insightful explanation of model strengths and weaknesses, supported by results.	**3-4:** Adequate explanation of strengths and weaknesses with minor gaps in detail or evidence.	**1-2:** Weak explanation with minimal evidence from testing results.	**0:** No analysis or incorrect analysis provided.	**/6**
Model Evaluation Metrics (5 marks)	**5:** Metrics are accurately described and justified as appropriate for the task.	**3-4:** Metrics are described but justification is vague or lacks depth.	**1-2:** Metrics are poorly explained or not justified.	**0:** Metrics are not described or irrelevant.	**/5**
Improvement Strategies (5 marks)	**5:** Well-justified, practical suggestions for improvement	**3-4:** Relevant suggestions with minor gaps in	**1-2:** Suggestions are vague, impractical, or weakly justified.	**0:** No improvement strategies provided.	**/5**

Criterion	Excellent (Full Marks)	Good (Mid Marks)	Fair (Low Marks)	Poor (Minimal Marks)	Marks
	based on results and domain knowledge.	justification or practicality.			
Real-World Applicability (4 marks)	**4:** Thoughtful discussion of model generalization and deployment potential, well-supported by evaluation results.	**3:** Generalization and deployment are discussed but lack depth or connection to results.	**1-2:** Minimal discussion with vague or weak conclusions.	**0:** No discussion of real-world applicability provided.	**/4**
Video Demonstration (5 marks)	**5:** Clear, concise, and professional video showing code functionality, results, and brief explanation.	**3-4:** Video is mostly clear and demonstrates functionality, but may lack depth or clarity in parts.	**1-2:** Video is unclear, unstructured, or incomplete in demonstrating functionality and results.	**0:** No video provided or video does not demonstrate required aspects.	**/5**

Total Marks: 100

- **Part 1 (Coding): 75 marks**
- **Part 2 (Problem Analysis and Video): 25 marks**