

Identity and Purpose Checklist

LM-03: Credit Sought from Training Environment

1. **Hardware Requirements:** Does the training environment meet the required hardware specifications?
 - Yes / No
3. **Software Requirements:** Are all necessary software tools and libraries installed in the training environment?
 - Yes / No
5. **Environment Qualification:** Has the training environment been qualified to ensure it meets the requirements for model development?
 - Yes / No

LM-04: Quantifiable Generalisation Bounds

1. **Generalisation Bound Calculation:** Have generalisation bounds been calculated using a suitable method (e.g., VC dimension, Rademacher complexity)?
 - Yes / No
3. **Bound Acceptance Levels:** Are the calculated generalisation bounds within acceptable levels?
 - Yes / No

LM-05: Model Training Results

1. **Model Training Completion:** Has the model training process been completed without errors or issues?
 - Yes / No
3. **Training Data Quality:** Is the quality of the training data sufficient for effective model training?
 - Yes / No
5. **Model Performance Metrics:** Have performance metrics (e.g., accuracy, loss) been calculated and documented?
 - Yes / No

LM-06: Model Optimisation

1. **Pruning or Quantisation:** Has pruning or quantisation been applied to the model, and if so, what was the impact on model behaviour or performance?

- Yes / No

3. **Optimisation Methods:** Were any other optimisation methods (e.g., regularization, early stopping) used, and if so, how did they affect the model?

- Yes / No

LM-07 -SL: Bias-Variance Trade-off

1. **Model Family Selection:** Was the bias-variance trade-off considered when selecting the model family (e.g., linear, non-linear)?

- Yes / No

3. **Reproducibility:** Is the model training process reproducible, and if so, what measures were taken to ensure this?

- Yes / No

LM-08: Bias and Variance Estimation

1. **Estimated Bias:** Has the estimated bias of the selected model been calculated and documented?

- Yes / No

3. **Estimated Variance:** Has the estimated variance of the selected model been calculated and documented?

- Yes / No

LM-09: Model Verification

1. **Test Data Performance:** Has the performance of the trained model been evaluated using test data, and if so, what were the results?

- Yes / No

3. **Model Validation:** Was the trained model validated against a validation dataset, and if so, what were the results?

- Yes / No

LM-10: Requirements-Based Verification

1. **Requirements Compliance:** Does the trained model meet all requirements specified for its intended use?

- Yes / No

3. **Verification Methods:** Were any specific verification methods (e.g., simulation, testing) used to validate the model's performance?

- Yes / No

LM-11: Learning Algorithm Stability

1. **Algorithm Selection:** Was a suitable learning algorithm selected for the task, and if so, what was its impact on model stability?

- Yes / No

3. **Stability Assessment:** Has the stability of the learning algorithm been assessed, and if so, what were the results?

- Yes / No

LM-12: Model Stability Verification

1. **Model Stability:** Has the stability of the trained model been verified using suitable methods (e.g., sensitivity analysis, robustness testing)?

- Yes / No

3. **Stability Metrics:** Have any relevant metrics (e.g., mean absolute error, variance) been calculated to assess the model's stability?

- Yes / No