

Uncertainty Quantification



Aleatoric Uncertainty

Inherent randomness in the data that cannot be reduced with more training



Epistemic Uncertainty

Model knowledge gaps that can be reduced with more data or better training

Clinical Confidence Thresholds

High (>90%)

Proceed with recommendation

Medium (70-90%)

Flag for review

Low (<70%)

Require expert consultation

Very Low (<50%)

Decline to answer

"I don't know" is a valid and valuable medical response