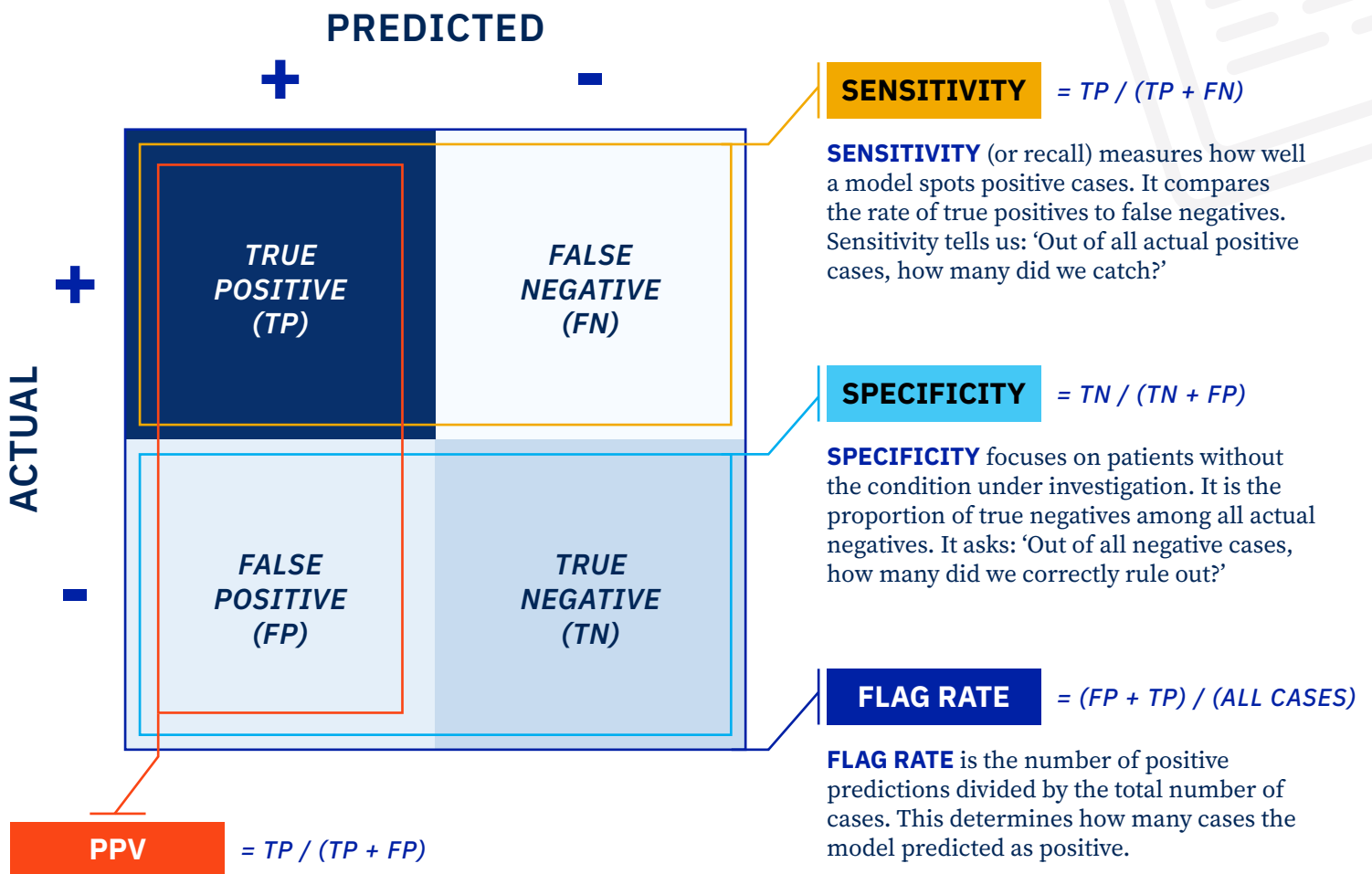


# UNDERSTANDING KEY CLASSIFICATION METRICS

**CLASSIFICATION METRICS** can help you interpret an AI prediction model's performance. The analysis can be represented by placing predictions and actual cases into four quadrants. The diagram below represents a prediction model. Each of the quadrants represents a combination of predicted and actual diagnosis. They are labeled as true positive (TP), false negative (FN), false positive (FP), and true negative (TN).

Further, the terms **SENSITIVITY, SPECIFICITY, POSITIVE PREDICTIVE VALUE (PPV), FLAG RATE**, and the **AREA UNDER THE ROC CURVE (AUC)** can help you interpret AI prediction models with confidence.



**POSITIVE PREDICTIVE VALUE (PPV)** (or precision) tells us how reliable a positive result is. It's the proportion of predicted positive cases versus the false positives. In other words, it tells us the proportion of predicted positive cases that are actually correct. Precision helps you trust the model when making clinical decisions based on its predictions.

**AUC**

The **AREA UNDER THE ROC CURVE (AUC)** measures how effectively a classification model distinguishes between positive and negative cases across all classification thresholds. The ROC curve plots the True Positive Rate (Sensitivity) against the False Positive Rate (1 - Specificity) at various thresholds. An AUC close to 1 indicates excellent model performance, while an AUC near 0.5 suggests the model performs no better than random chance.

## RECEIVER OPERATING CHARACTERISTIC (ROC) CURVE

