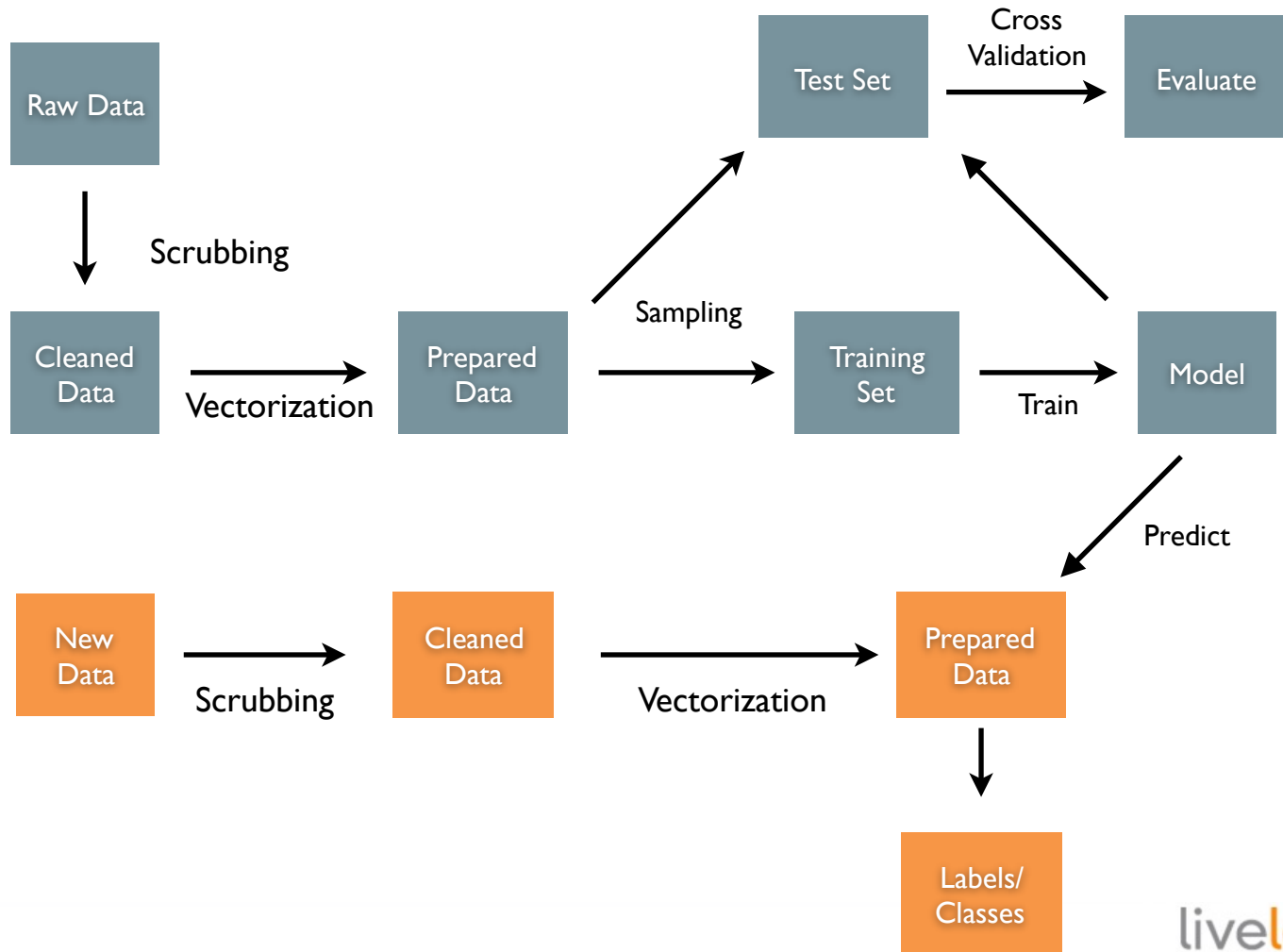
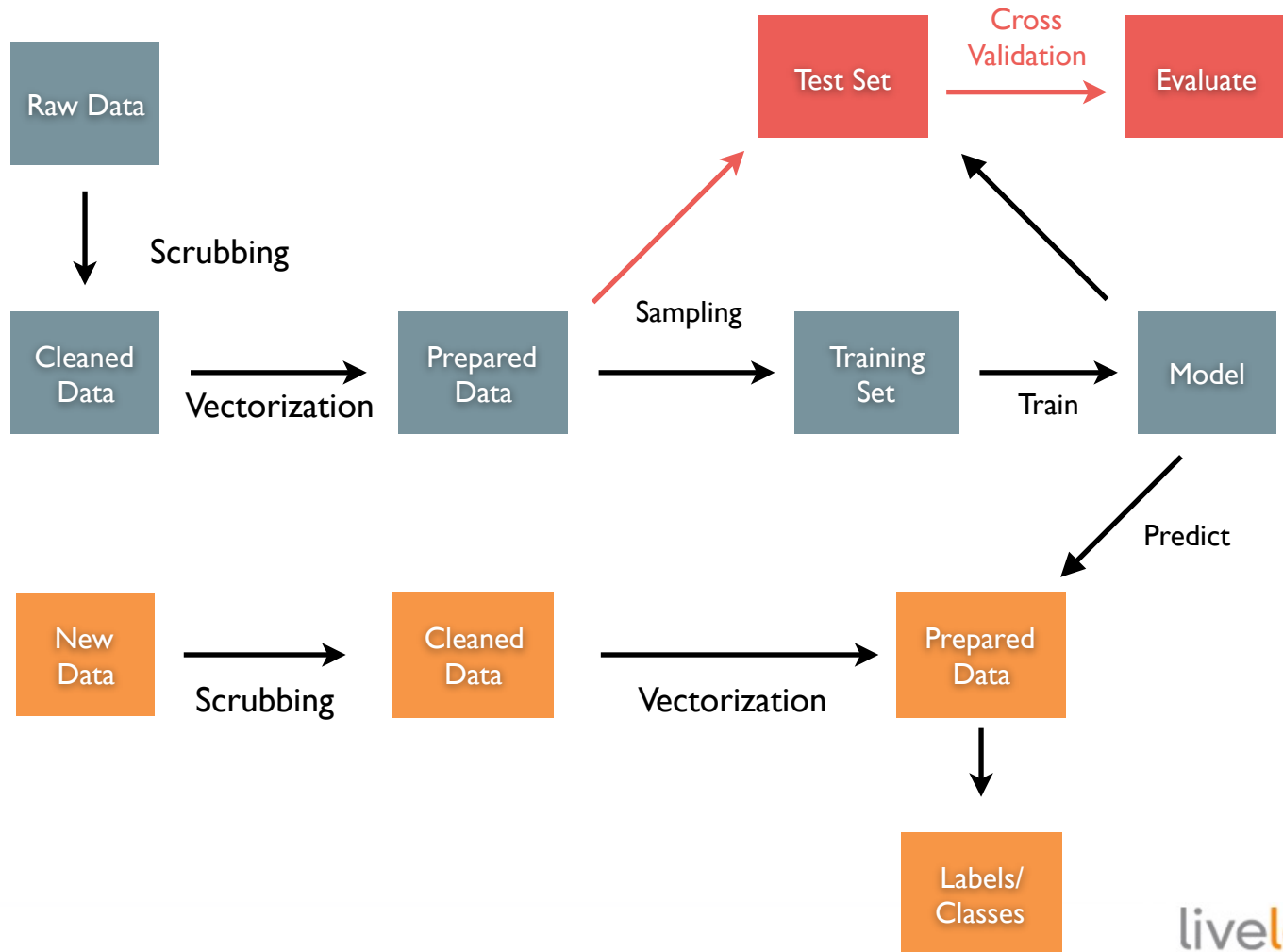


Lesson 5: Advanced Applications

5.5 Model Evaluation and Metrics





Evaluation

Split labeled data into a training set and a test set

Whatever you do, **DO NOT** cross the streams



Evaluation Metrics

- Accuracy
- Precision/Recall
- F1
- AUC (area under the curve)



Short Comings of Accuracy

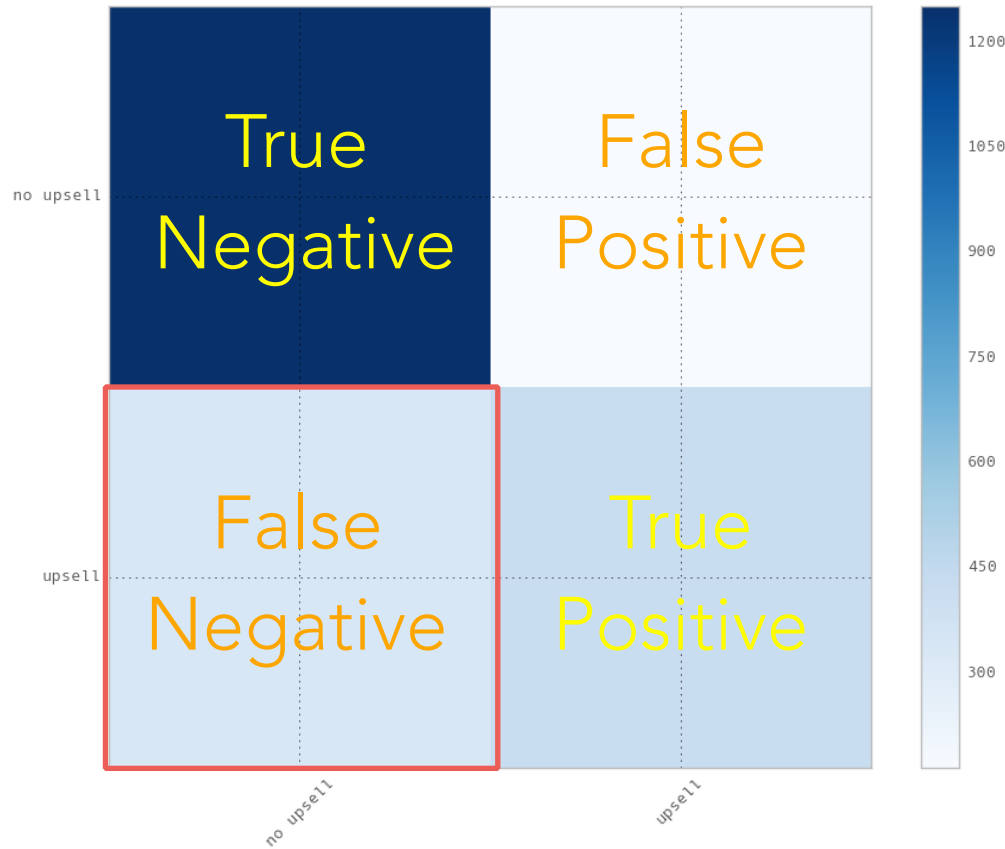
- Sensitive to imbalanced classes
- Misclassifications carry equal weight

$$\text{Accuracy} = \frac{\text{\# correct}}{\text{total examples}}$$



Confusion matrix

True Label



Predicted Label

$$\text{Accuracy} = \frac{\text{TP} + \text{TN}}{\text{TP} + \text{TN} + \text{FP} + \text{FN}}$$

$$\text{True positive rate} = \frac{\text{TP}}{\text{TP} + \text{FN}}$$

$$\text{False positive rate} = \frac{\text{FP}}{\text{FP} + \text{TN}}$$



Logistic Regression

