MODEL REPORT

BRAND A:

Selected Model: **SVM Sigmoid** (among Logit, Bernoulli Naive Bayes, SVM Bayesian, SVM Polynomial, Random Forest, Artificial Neural Network).

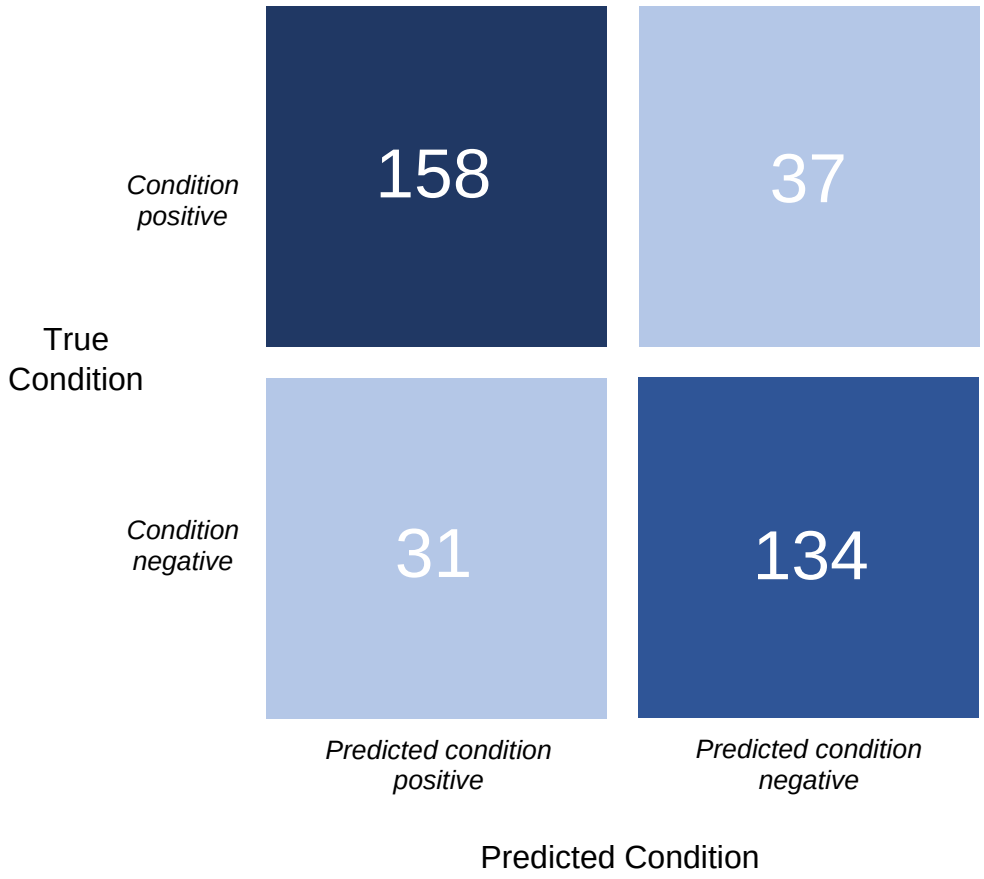
Selected Variables: **40** (vrb_13, vrb_241, vrb_235, vrb_209, vrb_399, vrb_400, vrb_022, vrb_021, vrb_008, vrb_155, vrb_163, vrb_005, vrb_169, vrb_075, vrb_451, vrb_231, vrb_301, vrb_298, vrb_273, vrb_107, vrb_104, vrb_458, vrb_298, vrb_176, vrb_95, vrb_26, vrb_307, vrb_308, vrb_290, vbr_174, vbr_374, vbr_23, vbr_433, vbr_410, vbr_333, vbr_292, vbr_143, vbr_264, vbr_359, vrb_310).

Dataset: **360 instances** (80% training | 20% validation).

TRAINING METRICS:

Accuracy: 0.8111
Precision: 0.8360
Recall: 0.8103
F: 0.8229

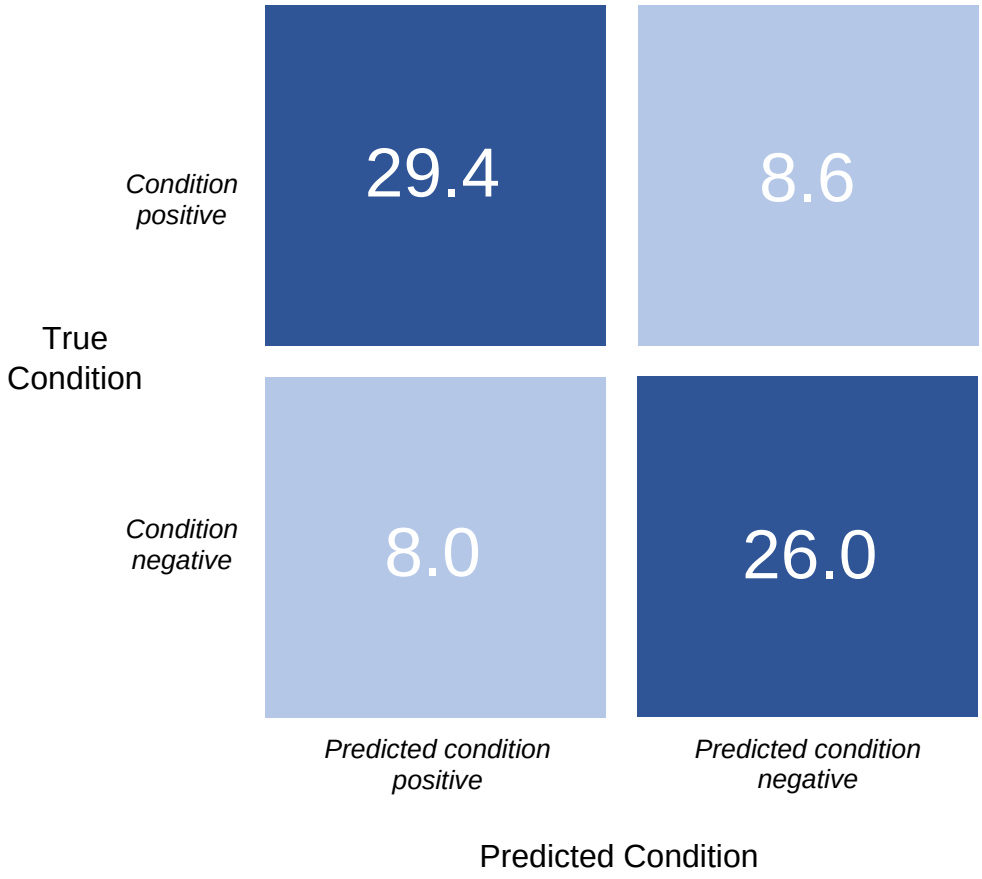
Contingency Table:



VALIDATION METRICS (average of 30 iterations):

Accuracy: 0.7694
Precision: 0.7861
Recall: 0.7737
F: 0.7798

Contingency Table:



BRAND B:

Selected Model: **Random Forest** (among Logit, Bernoulli Naive Bayes, SVM Bayesian, SVM Sigmoid, SVM Polynomial, Artificial Neural Network).

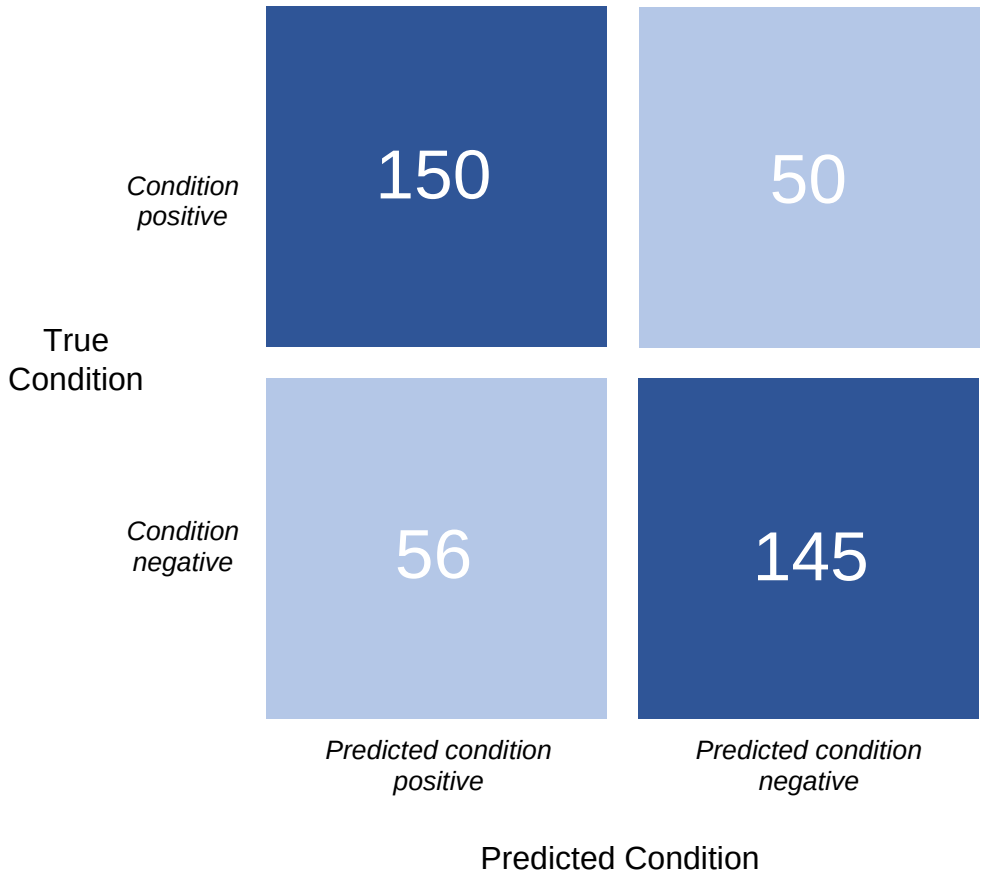
Selected Variables: **72** (vbr_83, vbr_374, vbr_23, vbr_433, vbr_410, vbr_333, vbr_292, vbr_143, vbr_264, vbr_359, vrb_310, vbr_010, vbr_013, vbr_055, vbr_028, vbr_210, vbr_205, vbr_251, vbr_268, vbr_307, vbr_313, vbr_478, vbr_488, vrb_254, vrb_365, vrb_13, vrb_241, vrb_235, vrb_209, vrb_399, vrb_400, vrb_022, vrb_021, vrb_008, vrb_155, vrb_163, vrb_174, vrb_002, vrb_005, vrb_169, vrb_075, vrb_451, vrb_231, vrb_301, vrb_298, vrb_273, vrb_107, vrb_104, vrb_458, vrb_298, vrb_176, vrb_95, vrb_26, vrb_307, vrb_308, vrb_290, vbr_174, vbr_115, vbr_502, vbr_510, vbr_473, vbr_451, vbr_371, vbr_325, vbr_226, vbr_222, vbr_217, vbr_198, vbr_061, vbr_070, vbr_080, vbr_118).

Dataset: **500 instances** (80% training | 20% validation).

TRAINING METRICS:

Accuracy: 0.7360
Precision: 0.7276
Recall: 0.7510
F: 0.7391

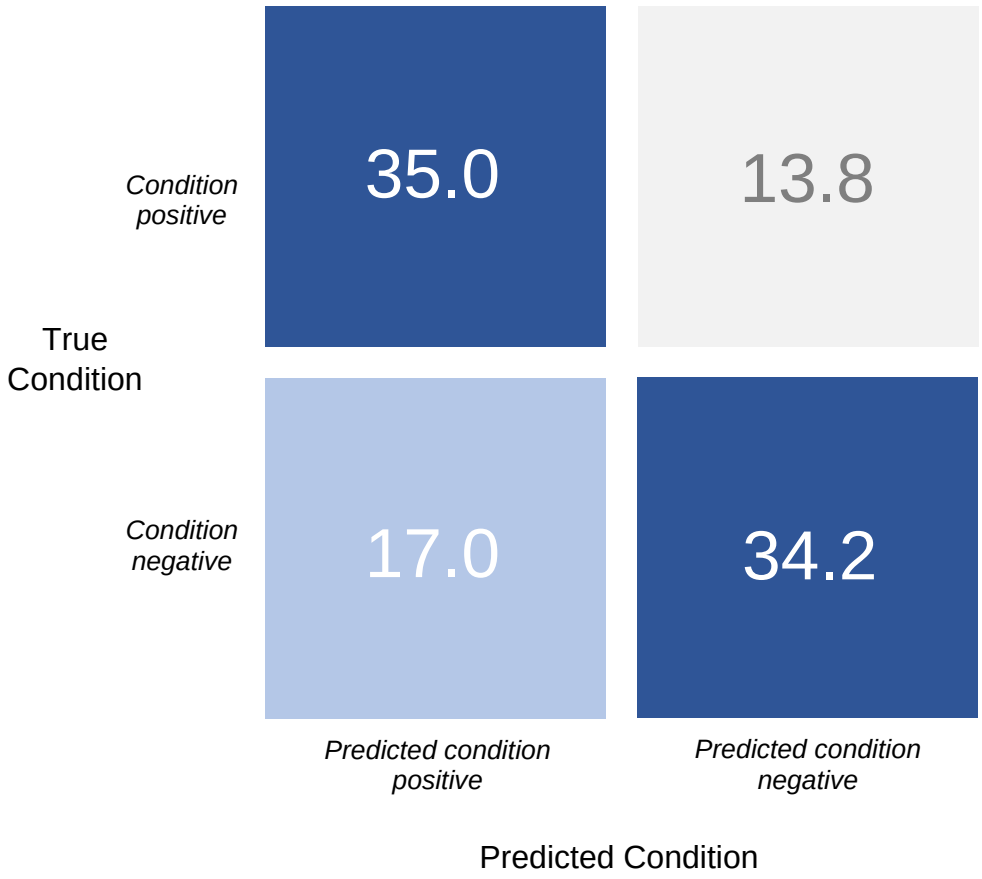
Contingency Table:



VALIDATION METRICS (average of 30 iterations):

Accuracy: 0.6920
Precision: 0.6731
Recall: 0.7172
F: 0.6944

Contingency Table:



BRAND C:

Selected Model: **SVM Sigmoid** (among Logit, Bernoulli Naive Bayes, SVM Bayesian, SVM Polynomial, Random Forest, Artificial Neural Network).

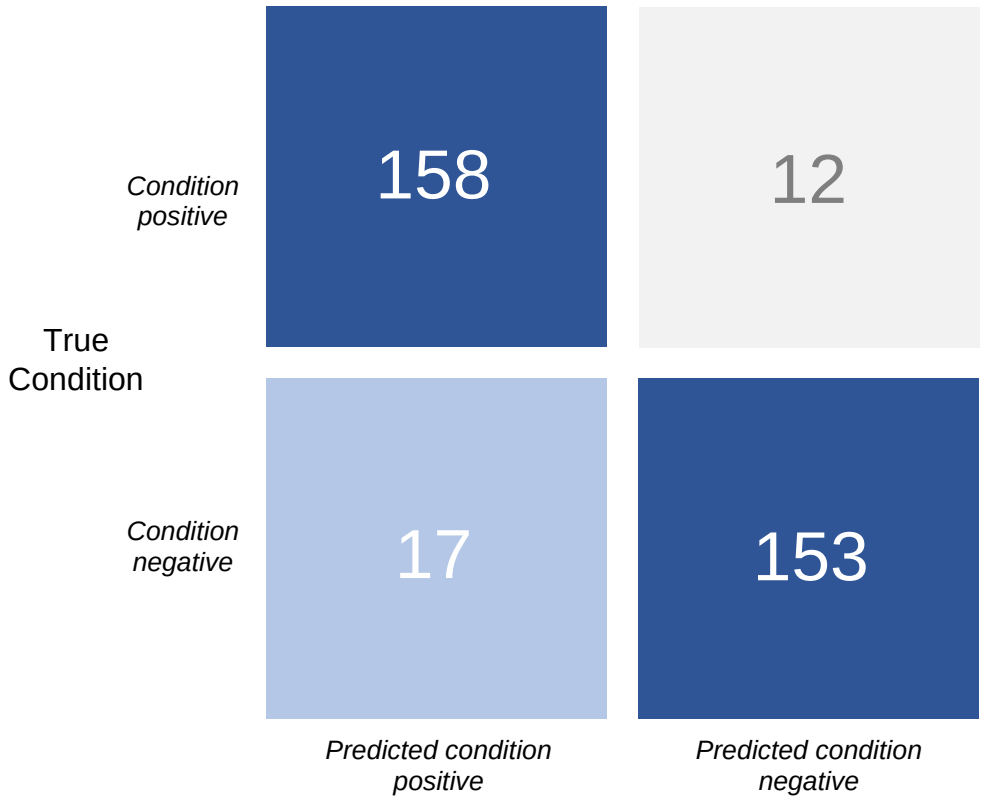
Selected Variables: **90** (vrb_075, vrb_451, vrb_231, vrb_301, vrb_298, vrb_310, vbr_010, vbr_013, vbr_055, vbr_028, vbr_210, vbr_205, vbr_251, vbr_268, vbr_307, vbr_313, vbr_478, vbr_488, vrb_254, vrb_365, vrb_13, vrb_241, vbr_160, vbr_241, vbr_174, vbr_115, vbr_502, vbr_510, vbr_473, vbr_451, vbr_371, vbr_325, vbr_226, vbr_222, vbr_217, vbr_198, vbr_061, vbr_070, vbr_080, vbr_118, vbr_159, vbr_83, vbr_374, vbr_23, vbr_433, vbr_410, vrb_235, vrb_209, vrb_399, vrb_400, vrb_022, vrb_021, vrb_008, vrb_155, vrb_163, vrb_174, vrb_002, vrb_005, vrb_169, vbr_243, vbr_320, vbr_382, vbr_385, vbr_520, vbr_073, vbr_333, vbr_292, vbr_143, vbr_264, vbr_359, vbr_521, vbr_412, vbr_305, vbr_401, vbr_032, vbr_014, vbr_147, vbr_166, vbr_066, vrb_273, vrb_107, vrb_104, vrb_458, vrb_298, vrb_176, vrb_95, vrb_26, vrb_307, vrb_308, vrb_290).

Dataset: **425 instances** (80% training | 20% validation).

TRAINING METRICS:

Accuracy: 0.9153
Precision: 0.9041
Recall: 0.9296
F: 0.9167

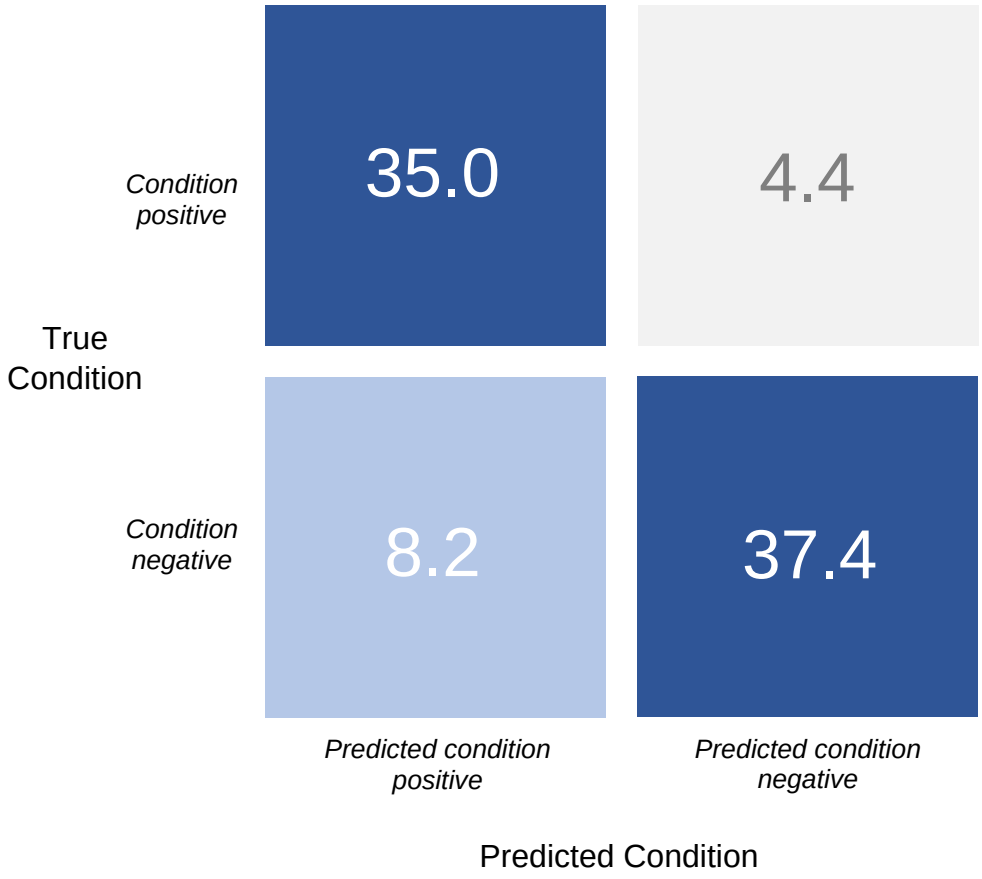
Contingency Table:



VALIDATION METRICS (average of 30 iterations):

Accuracy: 0.8518
Precision: 0.8102
Recall: 0.8883
F: 0.8475

Contingency Table:



BRAND D:

Selected Model: **Bernoulli Naive Bayes** (among Logit, SVM Sigmoid, SVM Bayesian, SVM Polynomial, Random Forest, Artificial Neural Network).

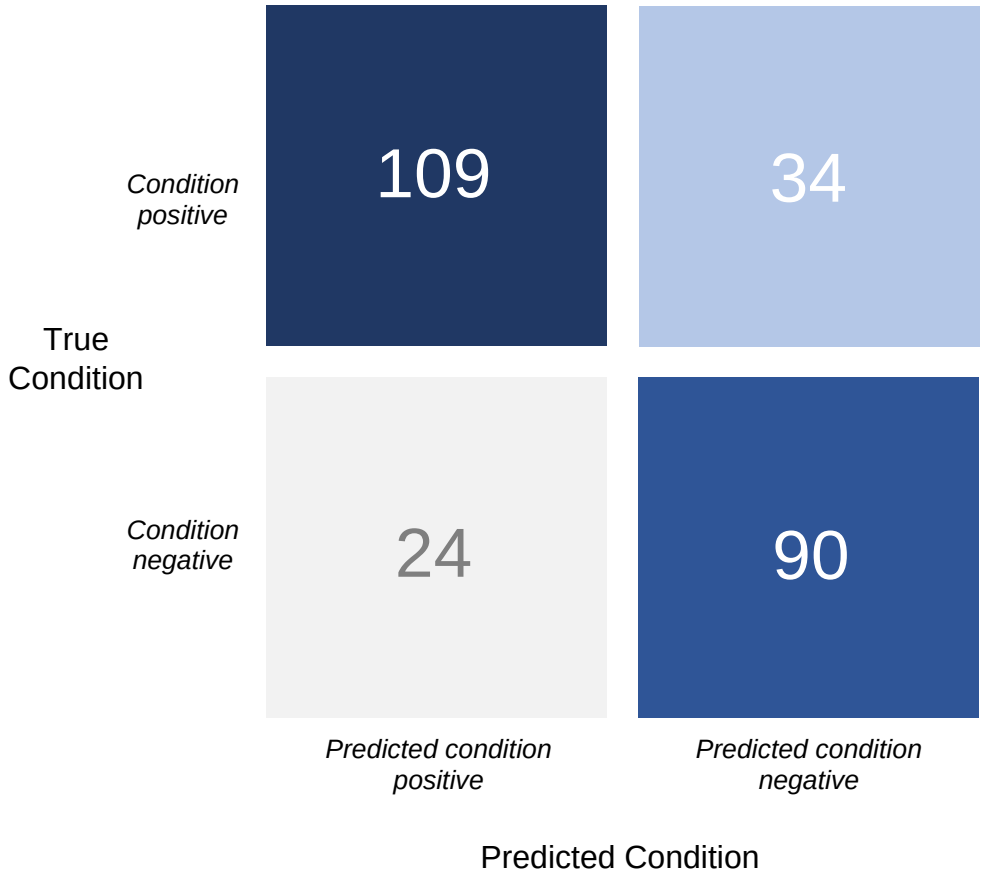
Selected Variables: **40** (vrb_235, vrb_209, vrb_399, vrb_400, vrb_022, vrb_021, vrb_008, vrb_155, vrb_163, vrb_174, vrb_002, vrb_005, vrb_169, vrb_075, vrb_451, vrb_231, vrb_301, vrb_298, vrb_273, vrb_107, vrb_104, vrb_458, vrb_298, vrb_307, vrb_308, vrb_290, vbr_174, vbr_115, vbr_83, vbr_374, vbr_23, vbr_433, vbr_410, vbr_333, vbr_292, vbr_143, vbr_264, vbr_359, vrb_310).

Dataset: **320 instances** (80% training | 20% validation).

TRAINING METRICS:

Accuracy: 0.7750
Precision: 0.8193
Recall: 0.7640
F: 0.7907

Contingency Table:



VALIDATION METRICS (average of 30 iterations):

Accuracy: 0.7438
Precision: 0.7330
Recall: 0.7866
F: 0.7588

Contingency Table: