Table S2. List of machine learning models applied to the labeled data set (n = 15,000 image objects). R package, dependent libraries, preprocessing requirements, and final tuning parameters are also summarized. Data were centered and scaled (CS). Near zero variance predictors were identified and removed (NZV). Data were down-sampled to adjust for class imbalance.

Model	Preprocess	Tuning Parameters		
		Code	Definition	Final
Random Forest (RF)	None	mtry	Number of predictors	20
Package=ranger with libraries		splitrule	Splitting rule	extratrees
(e1071, ranger, dplyr)		min.node.size	Minimum node size	1
Stochastic Gradient Boosting (GBM)	None	n.trees	Number of trees	50
Package=gbm with libraries (gbm, plyr)		interation.depth	Tree complexity	3
		shrinkage	Learning rate	0.1
		n.minobsinnode	Minimum node size	10
Classification and Regression Tree (CART)	None	cp	Complexity parameter	0.0030198
Package=rpart with library (rpart)				
Support Vector Machine (SVM)	CS	sigma	Sigma	0.0445839
Package=svmRadial with library (kernlab)		C	Cost	4
K-Nearest Neighbor (KNN)	CS, NZV	k	Number of neighbors	15
Package=knn				