

# 6 Available Models

The models below are available in `train`. The code behind these protocols can be obtained using the function `getModelInfo` or by going to the [github repository](#).

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AdaBoost Classification Trees	adaboost	Classification	fastAdaboost
AdaBoost.M1	AdaBoost.M1	Classification	adabag, plyr
Adaptive Mixture Discriminant Analysis	amdai	Classification	adaptDA
Adaptive-Network-Based Fuzzy Inference System	ANFIS	Regression	frbs
Adjacent Categories Probability Model for Ordinal Data	vglmAdjCat	Classification	VGAM
Bagged AdaBoost	AdaBag	Classification	adabag, plyr
Bagged CART	treebag	Classification, Regression	ipred, plyr, e1071
Bagged FDA using gCV Pruning	bagFDAGCV	Classification	earth
Bagged Flexible Discriminant Analysis	bagFDA	Classification	earth, mda
Bagged Logic Regression	logicBag	Classification, Regression	logicFS
Bagged MARS	bagEarth	Classification, Regression	earth
Bagged MARS using gCV Pruning	bagEarthGCV	Classification, Regression	earth
Bagged Model	bag	Classification, Regression	caret
Bayesian Additive Regression Trees	bartMachine	Classification, Regression	bartMachine
Bayesian Generalized Linear Model	bayesglm	Classification, Regression	arm
Bayesian Regularized Neural Networks	brnn	Regression	brnn
Bayesian Ridge Regression	bridge	Regression	monomvn
Bayesian Ridge Regression (Model Averaged)	blassoAveraged	Regression	monomvn
Binary Discriminant Analysis	binda	Classification	binda

Boosted Classification Trees	ada	Classification	ada, plyr
Boosted Generalized Additive Model	gamboost	Classification, Regression	mboost, plyr
Boosted Generalized Linear Model	glmboost	Classification, Regression	plyr, mboost
Boosted Linear Model	BstLm	Classification, Regression	bst, plyr
Boosted Logistic Regression	LogitBoost	Classification	caTools
Boosted Smoothing Spline	bstSm	Classification, Regression	bst, plyr
Boosted Tree	blackboost	Classification, Regression	party, mboost, plyr
Boosted Tree	bstTree	Classification, Regression	bst, plyr
C4.5-like Trees	J48	Classification	RWeka
C5.0	C5.0	Classification	C50, plyr
CART	rpart	Classification, Regression	rpart
CART	rpart1SE	Classification, Regression	rpart
CART	rpart2	Classification, Regression	rpart
CART or Ordinal Responses	rpartScore	Classification	rpartScore, plyr
CHi-squared Automated Interaction Detection	chaid	Classification	CHAID
Conditional Inference Random Forest	cforest	Classification, Regression	party
Conditional Inference Tree	ctree	Classification, Regression	party

Conditional Inference Tree	ctree2	Classification, Regression	party
Continuation Ratio Model for Ordinal Data	vglmContRatio	Classification	VGAM
Cost-Sensitive C5.0	C5.0Cost	Classification	C50, plyr
Cost-Sensitive CART	rpartCost	Classification	rpart
Cubist	cubist	Regression	Cubist
Cumulative Probability Model for Ordinal Data	vglmCumulative	Classification	VGAM
DeepBoost	deepboost	Classification	deepboost
Diagonal Discriminant Analysis	dda	Classification	sparsediscrim
Distance Weighted Discrimination with Polynomial Kernel	dwdPoly	Classification	kerndwd
Distance Weighted Discrimination with Radial Basis Function Kernel	dwdRadial	Classification	kernlab, kerndwd
Dynamic Evolving Neural-Fuzzy Inference System	DENFIS	Regression	frbs
Elasticnet	enet	Regression	elasticnet
Ensemble Partial Least Squares Regression	enpls	Regression	enpls
Ensemble Partial Least Squares Regression with Feature Selection	enpls.fs	Regression	enpls
Ensembles of Generalized Linear Models	randomGLM	Classification, Regression	randomGLM
eXtreme Gradient Boosting	xgbLinear	Classification, Regression	xgboost

eXtreme Gradient Boosting	xgbTree	Classification, Regression	xgboost, plyr
Extreme Learning Machine	elm	Classification, Regression	elmNN
Factor-Based Linear Discriminant Analysis	RFlda	Classification	HiDimDA
Flexible Discriminant Analysis	fda	Classification	earth, mda
Fuzzy Inference Rules by Descent Method	FIR.DM	Regression	frbs
Fuzzy Rules Using Chi's Method	FRBCS.CHI	Classification	frbs
Fuzzy Rules Using Genetic Cooperative-Competitive Learning	GFS.GCCL	Classification	frbs
Fuzzy Rules Using Genetic Cooperative-Competitive Learning and Pittsburgh	FH.GBML	Classification	frbs
Fuzzy Rules Using the Structural Learning Algorithm on Vague Environment	SLAVE	Classification	frbs
Fuzzy Rules via MOGUL	GFS.FR.MOGUL	Regression	frbs
Fuzzy Rules via Thrift	GFS.THRIFT	Regression	frbs
Fuzzy Rules with Weight Factor	FRBCS.W	Classification	frbs
Gaussian Process	gaussprLinear	Classification, Regression	kernlab
Gaussian Process with Polynomial Kernel	gaussprPoly	Classification, Regression	kernlab

Gaussian Process with Radial Basis Function Kernel	gaussprRadial	Classification, Regression	kernlab
Generalized Additive Model using LOESS	gamLoess	Classification, Regression	gam
Generalized Additive Model using Splines	bam	Classification, Regression	mgcv
Generalized Additive Model using Splines	gam	Classification, Regression	mgcv
Generalized Additive Model using Splines	gamSpline	Classification, Regression	gam
Generalized Linear Model	glm	Classification, Regression	
Generalized Linear Model with Stepwise Feature Selection	glmStepAIC	Classification, Regression	MASS
Generalized Partial Least Squares	gpls	Classification	gpls
Genetic Lateral Tuning and Rule Selection of Linguistic Fuzzy Systems	GFS.LT.RS	Regression	frbs
glmnet	gbm_h2o	Classification, Regression	h2o
glmnet	glmnet	Classification, Regression	glmnet, Matrix
glmnet	glmnet_h2o	Classification, Regression	h2o
Greedy Prototype Selection	protoclass	Classification	proxy, protoclass
Heteroscedastic Discriminant Analysis	hda	Classification	hda
High Dimensional Discriminant Analysis	hdda	Classification	HDclassif

High-Dimensional Regularized Discriminant Analysis	hdrda	Classification	sparsediscrim
Hybrid Neural Fuzzy Inference System	HYFIS	Regression	frbs
Independent Component Regression	icr	Regression	fastICA
k-Nearest Neighbors	kknn	Classification, Regression	kknn
k-Nearest Neighbors	knn	Classification, Regression	
Knn regression via sklearn.neighbors.KNeighborsRegressor	pythonKnnReg	Regression	rPython
L2 Regularized Linear Support Vector Machines with Class Weights	svmLinearWeights2	Classification	Liblinear
L2 Regularized Support Vector Machine (dual) with Linear Kernel	svmLinear3	Classification, Regression	Liblinear
Learning Vector Quantization	lvq	Classification	class
Least Angle Regression	lars	Regression	lars
Least Angle Regression	lars2	Regression	lars
Least Squares Support Vector Machine	lssvmLinear	Classification	kernlab
Least Squares Support Vector Machine with Polynomial Kernel	lssvmPoly	Classification	kernlab
Least Squares Support Vector Machine with Radial Basis Function Kernel	lssvmRadial	Classification	kernlab
Linear Discriminant Analysis	lda	Classification	MASS
Linear Discriminant Analysis	lda2	Classification	MASS
Linear Discriminant Analysis with Stepwise Feature Selection	stepLDA	Classification	klaR, MASS
Linear Distance Weighted Discrimination	dwdLinear	Classification	kerndwd
Linear Regression	lm	Regression	

Linear Regression with Backwards Selection	leapBackward	Regression	leaps
Linear Regression with Forward Selection	leapForward	Regression	leaps
Linear Regression with Stepwise Selection	leapSeq	Regression	leaps
Linear Regression with Stepwise Selection	lmStepAIC	Regression	MASS
Linear Support Vector Machines with Class Weights	svmLinearWeights	Classification	e1071
Localized Linear Discriminant Analysis	loclda	Classification	klaR
Logic Regression	logreg	Classification, Regression	LogicReg
Logistic Model Trees	LMT	Classification	RWeka
Maximum Uncertainty Linear Discriminant Analysis	MIlda	Classification	HiDimDA
Mixture Discriminant Analysis	mda	Classification	mda
Model Averaged Naive Bayes Classifier	manb	Classification	bnclassify
Model Averaged Neural Network	avNNet	Classification, Regression	nnet
Model Rules	M5Rules	Regression	RWeka
Model Tree	M5	Regression	RWeka
Multi-Layer Perceptron	mlp	Classification, Regression	RSNNS
Multi-Layer Perceptron	mlpWeightDecay	Classification, Regression	RSNNS
Multi-Layer Perceptron, multiple layers	mlpWeightDecayML	Classification, Regression	RSNNS



Multi-Layer Perceptron, with multiple layers	mlpML	Classification, Regression	RSNNS
Multilayer Perceptron Network by Stochastic Gradient Descent	mlpSGD	Classification, Regression	FCNN4R, plyr
Multivariate Adaptive Regression Spline	earth	Classification, Regression	earth
Multivariate Adaptive Regression Splines	gcvEarth	Classification, Regression	earth
Naive Bayes	nb	Classification	klaR
Naive Bayes Classifier	nbDiscrete	Classification	bnclassify
Naive Bayes Classifier with Attribute Weighting	awnb	Classification	bnclassify
Nearest Shrunken Centroids	pam	Classification	pamr
Negative Binomial Generalized Linear Model	glm.nb	Regression	
Neural Network	neuralnet	Regression	neuralnet
Neural Network	nnet	Classification, Regression	nnet
Neural Networks with Feature Extraction	pcaNNet	Classification, Regression	nnet
Non-Convex Penalized Quantile Regression	rqnc	Regression	rqPen
Non-Negative Least Squares	nnls	Regression	nnls
Oblique Random Forest	ORFlog	Classification	obliqueRF
Oblique Random Forest	ORFpls	Classification	obliqueRF
Oblique Random Forest	ORFridge	Classification	obliqueRF

Oblique Random Forest	ORFsvm	Classification	obliqueRF
Oblique Trees	oblique.tree	Classification	oblique.tree
Optimal Weighted Nearest Neighbor Classifier	ownn	Classification	snn
Ordered Logistic or Probit Regression	polr	Classification	MASS
Parallel Random Forest	parRF	Classification, Regression	e1071, randomForest, foreach
partDSA	partDSA	Classification, Regression	partDSA
Partial Least Squares	kernelpls	Classification, Regression	pls
Partial Least Squares	pls	Classification, Regression	pls
Partial Least Squares	simpls	Classification, Regression	pls
Partial Least Squares	widekernelpls	Classification, Regression	pls
Partial Least Squares Generalized Linear Models	plsRglm	Classification, Regression	plsRglm
Penalized Discriminant Analysis	pda	Classification	mda
Penalized Discriminant Analysis	pda2	Classification	mda
Penalized Linear Discriminant Analysis	PenalizedLDA	Classification	penalizedLDA, plyr
Penalized Linear Regression	penalized	Regression	penalized
Penalized Logistic Regression	plr	Classification	stepAIC
Penalized Multinomial Regression	multinom	Classification	nnet
Penalized Ordinal Regression	ordinalNet	Classification, Regression	ordinalNet, plyr

Polynomial Kernel Regularized Least Squares	krlsPoly	Regression	KRLS
Principal Component Analysis	pcr	Regression	pls
Projection Pursuit Regression	ppr	Regression	
Quadratic Discriminant Analysis	qda	Classification	MASS
Quadratic Discriminant Analysis with Stepwise Feature Selection	stepQDA	Classification	klaR, MASS
Quantile Random Forest	qrf	Regression	quantregForest
Quantile Regression Neural Network	qrnn	Regression	qrnn
Quantile Regression with LASSO penalty	rqlasso	Regression	rqPen
Radial Basis Function Kernel Regularized Least Squares	krlsRadial	Regression	KRLS, kernlab
Radial Basis Function Network	rbf	Classification, Regression	RSNNS
Radial Basis Function Network	rbfDDA	Classification, Regression	RSNNS
Random Ferns	rFerns	Classification	rFerns
Random Forest	ranger	Classification, Regression	e1071, ranger
Random Forest	Rborist	Classification, Regression	Rborist
Random Forest	rf	Classification, Regression	randomForest
Random Forest by Randomization	extraTrees	Classification, Regression	extraTrees
Random Forest Rule-Based Model	rfRules	Classification, Regression	randomForest, inTrees, plyr

Random Forest with Additional Feature Selection	Boruta	Classification, Regression	Boruta, randomForest
Regularized Discriminant Analysis	rda	Classification	klaR
Regularized Linear Discriminant Analysis	rlda	Classification	sparsediscrim
Regularized Random Forest	RRF	Classification, Regression	randomForest, RRF
Regularized Random Forest	RRFglobal	Classification, Regression	RRF
Relaxed Lasso	relaxo	Regression	relaxo, plyr
Relevance Vector Machines with Linear Kernel	rvmLinear	Regression	kernlab
Relevance Vector Machines with Polynomial Kernel	rvmPoly	Regression	kernlab
Relevance Vector Machines with Radial Basis Function Kernel	rvmRadial	Regression	kernlab
Ridge Regression	ridge	Regression	elasticnet
Ridge Regression with Variable Selection	foba	Regression	foba
Robust Linear Discriminant Analysis	Linda	Classification	rrcov
Robust Linear Model	rlm	Regression	MASS
Robust Mixture Discriminant Analysis	rmda	Classification	robustDA
Robust Quadratic Discriminant Analysis	QdaCov	Classification	rrcov
Robust Regularized Linear Discriminant Analysis	rrlda	Classification	rrlda
Robust SIMCA	RSimca	Classification	rrcovHD
ROC-Based Classifier	rocc	Classification	rocc
Rotation Forest	rotationForest	Classification	rotationForest

Rotation Forest	rotationForestCp	Classification	rpart, plyr, rotationForest
Rule-Based Classifier	JRip	Classification	RWeka
Rule-Based Classifier	PART	Classification	RWeka
Self-Organizing Map	bdk	Classification, Regression	kohonen
Self-Organizing Maps	xyf	Classification, Regression	kohonen
Semi-Naive Structure Learner Wrapper	nbSearch	Classification	bnclassify
Shrinkage Discriminant Analysis	sda	Classification	sda
SIMCA	CSimca	Classification	rrcovHD
Simplified TSK Fuzzy Rules	FS.HGD	Regression	frbs
Single C5.0 Ruleset	C5.0Rules	Classification	C50
Single C5.0 Tree	C5.0Tree	Classification	C50
Single Rule Classification	OneR	Classification	RWeka
Sparse Distance Weighted Discrimination	sdwd	Classification	sdwd
Sparse Linear Discriminant Analysis	sparseLDA	Classification	sparseLDA
Sparse Mixture Discriminant Analysis	smda	Classification	sparseLDA
Sparse Partial Least Squares	spls	Classification, Regression	spls
Spike and Slab Regression	spikeslab	Regression	spikeslab, plyr
Stabilized Linear Discriminant Analysis	slda	Classification	ipred
Stabilized Nearest Neighbor Classifier	snn	Classification	snn

Stacked AutoEncoder Deep Neural Network	dnn	Classification, Regression	deepnet
Stepwise Diagonal Linear Discriminant Analysis	sddaLDA	Classification	SDDA
Stepwise Diagonal Quadratic Discriminant Analysis	sddaQDA	Classification	SDDA
Stochastic Gradient Boosting	gbm	Classification, Regression	gbm, plyr
Subtractive Clustering and Fuzzy c-Means Rules	SBC	Regression	frbs
Supervised Principal Component Analysis	superpc	Regression	superpc
Support Vector Machines with Boundrange String Kernel	svmBoundrangeString	Classification, Regression	kernlab
Support Vector Machines with Class Weights	svmRadialWeights	Classification	kernlab
Support Vector Machines with Exponential String Kernel	svmExpoString	Classification, Regression	kernlab
Support Vector Machines with Linear Kernel	svmLinear	Classification, Regression	kernlab
Support Vector Machines with Linear Kernel	svmLinear2	Classification, Regression	e1071
Support Vector Machines with Polynomial Kernel	svmPoly	Classification, Regression	kernlab
Support Vector Machines with Radial Basis Function Kernel	svmRadial	Classification, Regression	kernlab
Support Vector Machines with Radial Basis Function Kernel	svmRadialCost	Classification, Regression	kernlab

Support Vector Machines with Radial Basis Function Kernel	svmRadialSigma	Classification, Regression	kernlab
Support Vector Machines with Spectrum String Kernel	svmSpectrumString	Classification, Regression	kernlab
The Bayesian lasso	blasso	Regression	monomvn
The lasso	lasso	Regression	elasticnet
Tree Augmented Naive Bayes Classifier	tan	Classification	bnclassify
Tree Augmented Naive Bayes Classifier Structure Learner Wrapper	tanSearch	Classification	bnclassify
Tree Augmented Naive Bayes Classifier with Attribute Weighting	awtan	Classification	bnclassify
Tree Models from Genetic Algorithms	evtree	Classification, Regression	evtree
Tree-Based Ensembles	nodeHarvest	Classification, Regression	nodeHarvest
Variational Bayesian Multinomial Probit Regression	vbmpRadial	Classification	vbmp
Wang and Mendel Fuzzy Rules	WM	Regression	frbs
Weighted Subspace Random Forest	wsrf	Classification	wsrf

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