1 Models

Table 1: Summary of forecasting models and key features.

Name	Class	Inference	Bayes.	Draws	High-Dim.	Multi-Var.	Forecast Mode	Lang.	Package	Main Reference
AR(1)	Time Series	MLE					Iterative	R	forecast	Box, Jenkins, Reinsel, and Ljung (2015)
ARIMA	Time Series	MLE					Iterative	R	forecast	Box et al. (2015)
BART	Machine Learning	Bayesian MCMC	✓	✓	✓		Direct	R	BayesTree	Chipman, George, and McCulloch (2010)
BiTCN	Neural Network	Deterministic NN		✓	✓		Direct	Python	NeuralForecast	Sprangers, Schelter, and de Rijke (2023)
BVAR	Time Series	Bayesian MCMC	✓	✓		✓	Iterative	R	bvar	Giannone, Lenza, and Primiceri (2015)
CMR14	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Christiano, Motto, and Rostagno (2014)
DeepAR	Neural Network	Likelihood-based NN		✓			Direct	Python	NeuralForecast	Salinas, Flunkert, Gasthaus, and Januschowski (2020)
DFM	Time Series	MLE			✓	✓	Iterative	R	dfms	Doz, Giannone, and Reichlin (2011)
DNGS15	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Del Negro, Giannoni, and Schorfheide (2015)
DS04	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Del Negro and Schorfheide (2004)
Elastic Net	Machine Learning	Penalized			✓		Direct	R	glmnet	Giannone, Lenza, and Primiceri (2021)
ESN	Neural Network	Ridge Readout			✓		Direct	R/Python	reservoirnet	Ballarin et al. (2024)
FAVAR	Time Series	Bayesian MCMC	✓	✓	✓	✓	Iterative	R	bvar	Giannone et al. (2015)
FRBEDO08	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Edge, Kiley, and Laforte (2008)
FRBNY_OaR	Time Series	Quantile Regression		✓	✓		Direct	R	quantreg	Adams, Adrian, Boyarchenko, and Giannone (2021)
FU20	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Fratto and Uhlig (2020)
GPR	Machine Learning	Empirical Bayes	✓	✓	✓		Direct	R	DiceKriging	Roberts et al. (2013)
GSW12	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Galí, Smets, and Wouters (2012)
IN10	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Iacoviello and Neri (2010)
KR15_FF	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Kolasa and Rubaszek (2015)
KR15_HH	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Kolasa and Rubaszek (2015)
LASSO	Machine Learning	Penalized			✓		Direct	R	glmnet	Giannone et al. (2021)
Local Projection	Time Series	OLS			✓		Direct	R	base	Jordà (2005)
MSAR	Time Series	MLE					Iterative	R	MSwM	Hamilton (1989)
NBEATS	Neural Network	Deterministic NN			✓		Direct	Python	NeuralForecast	Olivares, Challu, Marcjasz, Weron, and Dubrawski (2023)
NHITS	Neural Network	Deterministic NN			✓		Direct	Python	NeuralForecast	Challu et al. (2023)
NKBGG	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Bernanke, Gertler, and Gilchrist (1999)
QRFAR	Machine Learning	Quantile Tree Ensemble		✓	✓		Direct	R	ranger	Goulet Coulombe, Leroux, Stevanovic, and Surprenant (2022)
QRFARDI	Machine Learning	Quantile Tree Ensemble		✓	✓		Direct	R	ranger	Goulet Coulombe et al. (2022)
RFAR	Machine Learning	Tree Ensemble			✓		Direct	R	ranger	Goulet Coulombe et al. (2022)
RFARDI	Machine Learning	Tree Ensemble			✓		Direct	R	ranger	Goulet Coulombe et al. (2022)
RIDGE	Machine Learning	Penalized			✓		Direct	R	glmnet	Giannone et al. (2021)
SW07	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Smets and Wouters (2007)
TFT	Neural Network	Deterministic NN		✓	✓		Direct	Python	NeuralForecast	Lim, Arik, Loeff, and Pfister (2021)
TSMixer	Neural Network	Deterministic NN			✓		Direct	Python	NeuralForecast	S.-A. Chen, Li, Yoder, Arik, and Pfister (2023)
TVP_VAR_SV	Time Series	Bayesian MCMC	✓	✓		✓	Iterative	R	bvarsv	Primiceri (2005)
UCM	Time Series	MLE					Iterative	R	KFAS	Harvey (1989)
WW11	DSGE	Bayesian MCMC	✓	✓		✓	Iterative	MATLAB	Dynare	Wieland and Wolters (2011)
XGBoost	Machine Learning	Gradient-Boosting			✓		Direct	R	xgboost	T. Chen and Guestrin (2016)

Notes: ✓ = feature present; blank = feature absent.
Bayes. = Bayesian model (otherwise non-Bayesian/frequentist).
Draws = predictive draws / full predictive distribution.
High-Dim. = uses the full panel or extracted factors.
Multi-Var. = multivariate target model.
Forecast Mode = iterative (recursive) vs. direct (horizon-specific).
Lang. = programming language.