

Chris Fry, Data Science Manager
Casey Lichtendahl, Visiting Researcher
Google

Consolidated framework for forecast generation and evaluation

Many examples exist today of forecasting tools that attempt to "self-optimize" by evaluating models against AIC or other performance metrics. One drawback with these approaches is that the evaluation is often made based on in-sample fits, rather than on out-of-sample performance. We discuss a framework currently in development at Google that integrates forecast generation and out of sample evaluation in a cohesive manner, enabling superior model fitting as well as a more comprehensive framework for evaluating forecasting and monitoring their performance. Our toolset leverages Google's computing infrastructure to generate forecasts, backtest models against a broad set of metrics, reconcile forecasts, and produce prediction intervals using both statistical models as well as a machine learning model.