Say Yes to the Guess:
Tailoring Elegant Ensembles on a Tight (Data) Budget[*]

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February 18, 2013

Abstract

We consider ensemble Bayesian model averaging (EBMA) in the context of small-n prediction tasks in the presence of a large number of component models. With a large number of observations to calibrate ensembles, relatively small numbers of component forecasts, and low rates of missingness, the standard approach to calibrating forecasting ensembles introduced by Raftery et al. (2005) performs well. However, data in the social sciences generally do not fulfill these requirements. The number of predicted outcomes tends to be small, the number of forecasting models in the literature can be large, and missing predictions for component models are not uncommon. In these circumstances, EBMA models may miss-weight components, undermining the advantages of the ensemble approach to prediction. In this article, we explore these issues and introduce a "wisdom of the crowds" parameter to the standard EBMA framework, which improves its performance. Specifically, we show that this solution improves predictive accuracy of EBMA forecasts in both political and economic applications.