

# Focused Bayesian Prediction

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## Abstract

We propose a new method for conducting Bayesian prediction that delivers accurate predictions without correctly specifying the unknown true data generating process. A prior is defined over a class of plausible predictive models. After observing data, we update the prior to a posterior over these models, via a criterion that captures a user-specified measure of predictive accuracy. Under regularity, this update yields posterior concentration onto the element of the predictive class that maximizes the expectation of the accuracy measure. In a series of simulation experiments and empirical examples we find notable gains in predictive accuracy relative to conventional likelihood-based prediction.

## References

- [1] R. Loaiza-Maya, G. M. Martin, D. T. Frazier (2019). Focused Bayesian Prediction. [arXiv:1912.12571](https://arxiv.org/abs/1912.12571).