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Bayesian Inference for Unidirectional Misclassification in Regression Models

We consider unidirectional misclassification, meaning that the direction of error is known. Well-known examples of unidirectional misclassification include misrepresentation in self-reported measures. We investigate the identifiability of Bayesian regression models when either the binary covariate or response is subject to unidirectional misclassification. We consider whether the knowledge on the direction of error suffices, so that adjustment for misclassification can be undertaken without any source of information on the magnitude of the error. While measurement error models are generally nonidentified, for the case of unidirectional misclassification, we can obtain model identifiability (partial identification) when the response variable is non-binary (binary).