All models are wrong, but some are dangerous: Philosophical Aspects of Statistical Model Selection

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Abstract

All models are wrong, some are dangerous; of those a few may prove useful. Outside the classroom, model selection is best done in the context of the (each) question of interest; there need be no optimal approach to model selection, nor decision-relevant probability distribution over models. Nevertheless overconfidence can be reduced, understanding increased, and the qualitative (perhaps quantitative) use of relevant models (from amongst those on the table) can be made less dangerous.