Comparisons of Signals

Emir Kamenica, Ben Brooks, and Alex Frankel

Abstract :
A (Blackwell) experiment specifies the joint distribution of truth and the data generated by the experiment. A signal specifies the joint distribution of truth, the data generated by the signal, and the data generated by any other signal. Defining two experiments does not determine their joint informational content; defining two signals does. Blackwell (1953) studied (equivalent) comparisons of experiments; he characterized when one experiment is more valuable than another regardless of the preferences of the decision maker. We study (various, non-equivalent) comparisons of signals; among other comparisons, we characterize when one signal is more valuable than another regardless of the preferences of the decision maker and regardless of what other information the decision maker may have.