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SPEAKER TITLES/ABSTRACT

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“Calibration of Probability Forecasts”

A popular view of probability forecasting is that its aim is to maximize the sharpness of predictive distributions subject to their calibration (Gneiting et al., 2003+). Informally, calibration is the agreement between the predictive distributions and the observations, and its most popular formalization is calibration in probability. Sharpness refers to the concentration of the predictive distributions and does not depend on the observations. In this talk I will focus on conformal prediction, which is a method for producing provably calibrated predictive distributions, in the sense of calibration in probability and under the assumption, standard in machine learning, that the observations are produced independently from the same distribution (the IID assumption). While calibration is automatic under the IID assumption, achieving sharpness requires careful design of conformal predictors. My plan is to state asymptotic and small-sample results about their sharpness, with and without the IID assumption.