

Speaker: Dean Foster

Title: Deterministic Calibration with Simpler Checking Rules Joint work with:  
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Abstract: In this talk, I continue in the setting described in a previous talk, "Deterministic Calibration and Nash Equilibrium", in which players are making calibrated predictions of their opponents play and then taking best responses based on these predictions. Intuitively, the concept of making calibrated predictions of some event just means that the empirical observations must agree with the predictions under various "checking rules". The question addressed in this talk is: what aspects of the predictions need to be accurate in order for convergence to reach Nash equilibria? In general, we show that, for Nash convergence, it suffices that the predictions players make need only match the empirical frequencies under rather simple "checking rules". Furthermore, for games with special structure (such as graphical games), even less accuracy conditions on the predictions are required. Importantly, we find that we obtain faster convergence rates with prediction algorithms that pass these less stringent checks. We also discuss the relations to correlated equilibria. This is work in progress.