Mathematics, Statistics, and Computer Science   **@ UIC**

Analysis and Applied Mathematics Seminar

A PDE Interpretation of Prediction with Expert Advice

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Abstract: Prediction with expert advice is an area of online machine learning, which aims to synthesize advice from different experts. We consider the case of a stock prediction problem with an investor who relies on history-dependent experts, and an adversarial market. This forms a two-person game, and we are interested in the optimal strategies of the market and the player when the game is played over a long time. We prove that the discrete value function converges to the unique solution of a nonlinear parabolic PDE, which determines asymptotically optimal strategies.

Monday, February 10 at 4:00 PM in 636 SEO