



Prediction of the FIFA World Cup 2014 by a regularized random effects model

Andreas Groll (Institut für Mathematik, LMU)
Gunther Schaubberger (Institut für Statistik, LMU)

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Nowadays many approaches that analyze and predict the results of soccer matches are based on bookmakers' ratings. It is commonly accepted that the models used by the bookmakers contain a lot of expertise as the bookmakers' profits and losses depend on the performance of their models. A competing approach proposed in this talk is to set up a suitable regression model incorporating several potentially influential covariates with respect to a national team's success at FIFA World Cups. Therefore, we use a specific Poisson model for the number of goals scored by national teams competing in FIFA World Cup matches. In particular, the generalized linear mixed model (GLMM) approach allows to incorporate team-specific random effects. Similar to Bradley-Terry-Luce models, we consider the differences of the team-specific random effects of the competing teams. In order to achieve variable selection and shrinkage, we use the glmLasso approach proposed by Groll and Tutz (2013). Based on the three preceding FIFA World Cups a sparse model is obtained that is used to repeatedly simulate all match outcomes of the FIFA World Cup 2014 in Brazil, resulting in winning probabilities for all participating teams.