

Online data challenges, disrupters and facilitators for grant-based clinical risk prediction research

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Statisticians have traditionally developed and validated clinical risk models through years of grant-funded interdisciplinary work centered on patient clinical trials. Thanks to the rise of internet interface and open source programs, such as the R Shiny package, statisticians can quickly export validated clinical risk models to the benefit of patients, clinicians and other academic researchers; see riskcalc.org. Recently, the machine-learning community has greatly expedited the process of developing useful clinical risk tools by amassing many clinical studies at once with the lure of instant cash prizes to capitalize on internet crowdsourcing. In this talk, I outline my experience participating in both paradigms for developing clinical risk models, addressing the means by which statisticians and machine learners can use competition and cooperation to optimize the goal of improving clinical risk prediction for patients.