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Personalized Treatment: Sounds heavenly, but where on Earth did they find the right guinea pig for me?

Are you kidding me? Surely no one should take personalized literally. Fair enough, but then how unpersonalized is personalized? That is, how fuzzy should “me” become before there are enough qualified “me”s to serve as my guinea pigs? Wavelet-inspired Multi-resolution (MR) inference (Meng, 2014, COPSS 50th Anniversary Volume) allows us to theoretically frame such a question, where the primary resolution level defines the appropriate fuzziness - very much like identifying the best viewing resolution when taking a photo. Statistically, the search for the appropriate primary resolution level is a quest for a sensible bias-variance trade-off: estimating more precisely a less relevant treatment effect versus estimating less precisely but a more relevant treatment effect for “me.” Unexpectedly, the MR framework reveals a world without the bias-variance trade-off, where the personal outcome is governed deterministically by potentially infinitely many personal attributes. This world without variance apparently prefers overfitting in the lens of statistical prediction and estimation, a discovery that might provide a clue to some of the puzzling success of deep learning and the like (Li and Meng, 2020). A personal and painful story, together with a Simpson’s paradox from comparing kidney stone treatments, will be used to regale the audience.

Thursday, April 20 2023
4:00 PM

Lawrence P. & Ann Estes Klamon Room
Rollins School of Public Health,
Claudia Nance Rollins Building, 8th Floor, Room 8030
1518 Clifton Road, N.E.

(Reception immediately following the lecture)
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Join Zoom Meeting: https://zoom.us/s/96244155952