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Generation of all randomizations using circuits

Elena Pesce[1] · Fabio Rapallo[2] · Eva Riccomagno[3] · Henry P. Wynn[4]

Abstract
After a rich history in medicine, randomized control trials (RCTs), both simple and complex, are in increasing use in other areas, such as web-based A/B testing and planning and design of decisions. A main objective of RCTs is to be able to measure parameters, and contrasts in particular, while guarding against biases from hidden confounders. After careful definitions of classical entities such as contrasts, an algebraic method based on circuits is introduced which gives a wide choice of randomization schemes.

✉ Fabio Rapallo
fabio.rapallo@unige.it

Elena Pesce
elena_pesce@swissre.com

Eva Riccomagno
riccomagno@dima.unige.it

Henry P. Wynn
h.wynn@lse.ac.uk

[1] Swiss Re Institute, Swiss Re Management Ltd, Mythenquai 50/60, 8022 Zurich, Switzerland

[2] Department of Economics, Università di Genova, Via F. Vivaldi 5, 16126 Genoa, Italy

[3] Department of Mathematics, Università di Genova, Via Dodecaneso 35, 16146 Genoa, Italy

[4] London School of Economics, London, WC2A 2AE, UK