



Data splitting with e-values

Vladimir Vovk¹

¹ Department of Computer Science, Royal Holloway, University of London, Egham, Surrey TW20 0EX, UK (v.vovk@rhul.ac.uk)

Abstract: After reviewing key properties of e-values needed in this talk, I will reanalyze Cox's idealized example of testing with data splitting using e-values in place of p-values. Cox's exciting finding was that the method of data splitting, while allowing flexible data analysis, achieves quite high efficiencies, of about 80%. The most serious objection to the method was that it involves splitting data at random, and so different people analyzing the same data may get very different answers. Using e-values instead of p-values remedies this disadvantage.

Keywords:

Hypothesis testing; data splitting; efficiency; e-values; calibration