

Spherical Score [Proper, Not Local, Feasible]

$$S(p, v) = \frac{-p(v)}{(\int_{-\infty}^{\infty} p^2(z) dz)^{\frac{1}{2}}} \quad (1)$$

As noted in Friedman 1983 [1] the spherical score provides another ‘correction’ to the naive score to convert it to a Proper score. Note the integral term is the L_2 norm of the forecast PDF. Due to the integral this is not a Local score. For any forecast the integral term is constant, so as for the Proper Linear score, it is Feasible.

Bibliography

- [1] D. Friedman. Effective scoring rules for probabilistic forecasts. Management Science, 29(4), April 1983.