

This is a list of mistakes, in either mathematical, grammatical/typography or explanation errors, that I feel need to be highlighted. I have made these changes in an updated copy of the paper, but following are a list of the changes that have been made.

Type of modification	Location in paper	Correction
Explanation	Abstract, 1st sentence: “used to estimate the entropy of a random vector $x \in \mathbb{R}^d$ of size $N$ , based upon...”	“used to estimate the entropy of a sample made up of $N$ vectors $x \in \mathbb{R}^d$ , based upon...”
Typography	Section 1.2.2 (pg.6), end of 1st sentence: “always lost”	“always lost”
Grammatical	Section 1.2.3 (pg.9), definition of strong consistency (asymptotic normality)	Incorrect notation: Estimator $\hat{H}_{N,k}$ should be $H_N$ and exact entropy $H$ should be $H(f)$
Explanation	Section 2.1 (pg.12), end of 1st paragraph: “asymptotic unbiasedness and consistency hold.”	Should be more specific “asymptotic unbiasedness and weak consistency ( $\hat{H}_{N,k} \xrightarrow{p} H$ ) hold.”
Explanation	Section 2.2.1 (pg.13), equation 2.1	In this definition $\log(\gamma)$ is the Euler-Mascheroni constant, whereas later just $\gamma$ is that constant. This caused confusion in the lines following the equation, where it should read $\log(\gamma) = \log\left(\exp\left[-\int_0^\infty e^{-t} \log(t) dt\right]\right) = -\int_0^\infty e^{-t} \log(t) dt = -\Psi(1)$
Explanation	Section 2.2.1 (pg.14), 1st paragraph after equation (2.2)	When mentioning it being a consistent estimator, should be more specific as meaning weakly consistent, in that $\hat{H}_{N,k} \xrightarrow{p} H$
Typography	Section 2.2 (pg.20), first line: “-L estimator”	“K-L estimator”
Explanation	Section 2.2 (pg.20), bullet points at end of page, equations 2.20 and 2.21	The explanation is confusing as the what $\beta$ and $a$ are, since we know $d$ and have chosen $k$ such that Theorems 1 and 2 hold, we know that $a > 0.5$ . So these points can be rewritten as: “With a fixed $k$ , by [5], for $a > 0.5$ we have: $Bias(\hat{H}_{N,k}) = O\left(\frac{1}{N^a}\right)$ ” and “With $k$ depending on $N$ , by [3], for $a > 0.5$ , we have: $Bias(\hat{H}_{N,k}) = O\left(\left(\frac{k}{N}\right)^a\right)$ ”
Typography	Chapter 3 (pg.23), number 1. in list 3rd sentence	$k \rightarrow 10$ should in fact be $k \rightarrow 11$
Typography	Section 3.1 (pg.35), 3rd line after table 3.4: “since the majoring of the data”	“since the majority of the data”
Typography	Section 3.1 (pg.37), 2nd full paragraph 3rd line: “ $\log(N) \approx 9$ (i.e. $N \approx 13,000$ )”	Incorrect value for $\log(N)$ , it should read “ $\log(N) \approx 9.5$ (i.e. $N \approx 13,000$ )”

Typography	Section 3.2 (pg.40) 2nd line: “(i.e taking a points with distance between them)”	“(i.e taking points with an $\infty$ -small distances between them)”
Typography	Section 3.3.2 (pg.62) Figure 3.1.3, both graphs have been incorrectly labelled along their x-axis	Graph a) should have $2 \rightarrow 11$ not $1 \rightarrow 10$ , and graph a) should also be shifted slightly. The correct graphs are shown in Figure 1
Mathematical	Chapter 4 (pg.71), 5th line after table 4.2: “the uniform we have variance $\frac{12}{100^2} = 0.0012$ , which is significantly smaller - so we would expect a more accurate estimator due to this.”	Formula is incorrect for variance, should be: “the uniform we have variance $\frac{100^2}{12} \approx 833$ , which is much larger than the normal - however, this could be irrelevant, since there is not yet extensive research into the relationship between variance and entropy.”

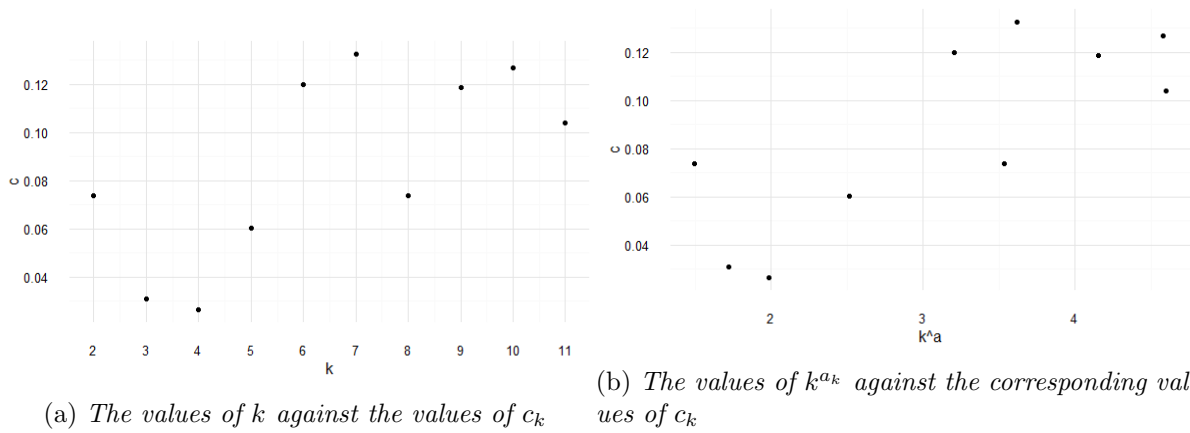


Figure 1: Graphically representing the relationship between  $c_k$  and  $k$  for the exponential distribution