

Chapter 1

Data

For all the data from the simulations visit https://github.com/KarinaMarks/Entropy-Estimators/blob/master/Data/data_normal.csv for the normal distribution, https://github.com/KarinaMarks/Entropy-Estimators/blob/master/Data/data_uniform.csv for the uniform distribution and https://github.com/KarinaMarks/Entropy-Estimators/blob/master/Data/data_expo.csv for the exponential distribution.

The data included here is the summary data created from the above simulated data, by the code set out in appendix ?? . Note that for the uniform and exponential tables, there is no data for $k = 1$, the reasons for this are set out previously in the appropriate chapters.

Simulations of Samples from the Normal Distribution - Summary Data

k	a_k	ζ	c_k	R^2	σ
1	-0.5054	-3.1396	0.0433	0.17661828686171607	1.0660838272774293
2	-0.549	-3.0807	0.0459	0.17925206277881248	1.1477000302094302
3	-0.6169	-2.4146	0.0894	0.2291675329227359	1.105346052553444
4	-0.8181	-0.402	0.669	0.3555947364645426	1.0759440094571222
5	-0.8486	-0.1942	0.8235	0.33224404864966217	1.175234753954676
6	-0.8976	0.4392	1.5514	0.42598413789031414	1.0179591933311047
7	-0.9464	0.8576	2.3576	0.4532271066441854	1.015543671615524
8	-0.9574	1.1638	3.2021	0.4622618103677057	1.0087975591274145
9	-0.9883	1.4942	4.4558	0.49615166230448043	0.9729852501959322
10	-1.0454	2.1448	8.5402	0.522710431578095	0.975910357146507
11	-1.0386	2.1686	8.7457	0.5838759856844608	0.8565835831228029

Simulations of Samples from the Uniform Distribution - Summary Data

k	a_k		c_k	R^2	σ
1	0.0	0.0	0.0	0.0	0.0
2	-0.5125	-3.657	0.0258	0.17211090724847583	1.0981929352102586
3	-0.5048	-3.9189	0.0199	0.15757092983648552	1.140209400927365
4	-0.6593	-2.5522	0.0779	0.24854564236305457	1.1199964906509245
5	-0.7286	-1.8768	0.1531	0.27842980395606237	1.1459347878922286
6	-0.8645	-0.4959	0.609	0.4026851191777433	1.0286337970721233
7	-0.8648	-0.552	0.5758	0.36052121422676875	1.1252173370666898
8	-0.9688	0.6085	1.8377	0.4688930592953607	1.0072590047360632
9	-0.9492	0.4118	1.5095	0.46531938639431797	0.9940387256809089
10	-0.9801	0.8772	2.4041	0.5087587117521769	0.9408499419440619
11	-1.0765	1.9011	6.6932	0.621458425518452	0.8208055149732554

Simulations of Samples from the Exponential Distribution - Summary Data

k	a_k		c_k	R^2	σ
1	0.0	0.0	0.0	0.0	0.0
2	-0.5824	-2.605	0.0739	0.18426832540375937	1.197183154117289
3	-0.4941	-3.4729	0.031	0.15964776874615852	1.1073499326838805
4	-0.494	-3.6277	0.0266	0.1537967126177289	1.1320666489578564
5	-0.5727	-2.8098	0.0602	0.21511352626001026	1.0687100051851457
6	-0.65	-2.1208	0.1199	0.22770117233710857	1.1694342748147517
7	-0.6605	-2.0218	0.1324	0.24742681384495552	1.1252927366709649
8	-0.6067	-2.6048	0.0739	0.21065071093727172	1.1472557143016018
9	-0.648	-2.1296	0.1189	0.2508890257166511	1.0938570355565644
10	-0.6606	-2.0658	0.1267	0.22004533438334092	1.2149786893084469
11	-0.6365	-2.2611	0.1042	0.2017082704261763	1.2369403770481109