

Sample JMLR Paper

Author One

ONE@STAT.WASHINGTON.EDU

*Department of Statistics
University of Washington
Seattle, WA 98195-4322, USA*

Author Two

TWO@CS.BERKELEY.EDU

*Division of Computer Science
University of California
Berkeley, CA 94720-1776, USA*

Editor: My editor

Abstract

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Keywords: keyword one, keyword two, keyword three

1. Introduction

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$$\bar{x} = \frac{1}{n} \sum_{i=1}^{i=n} x_i = \frac{x_1 + x_2 + \dots + x_n}{n}$$

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$$\int_0^\infty e^{-\alpha x^2} dx = \frac{1}{2} \sqrt{\int_{-\infty}^\infty e^{-\alpha x^2} dx \int_{-\infty}^\infty e^{-\alpha y^2} dy} = \frac{1}{2} \sqrt{\frac{\pi}{\alpha}}$$

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$$\sum_{k=0}^{\infty} a_0 q^k = \lim_{n \rightarrow \infty} \sum_{k=0}^n a_0 q^k = \lim_{n \rightarrow \infty} a_0 \frac{1 - q^{n+1}}{1 - q} = \frac{a_0}{1 - q}$$

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$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-p \pm \sqrt{p^2 - 4q}}{2}$$

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$$\frac{\partial^2 \Phi}{\partial x^2} + \frac{\partial^2 \Phi}{\partial y^2} + \frac{\partial^2 \Phi}{\partial z^2} = \frac{1}{c^2} \frac{\partial^2 \Phi}{\partial t^2}$$

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Here is a citation by [Chow and Liu \(1968\)](#). It is also possible to cite indirectly ([Pearl, 1988](#)).

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All acknowledgments go at the end of the paper before appendices and references. Moreover, you are required to declare funding (financial activities supporting the submitted work) and competing interests (related financial activities outside the submitted work). More information about this disclosure can be found on the JMLR website.

Appendix A.

In this appendix we prove the following lemma from Section 6.2:

Lemma 1 (discrete). *Let u, v, w be discrete variables such that v, w do not co-occur with u (i.e., $u \neq 0 \Rightarrow v = w = 0$ in a given dataset \mathcal{D}). Let N_{v0}, N_{w0} be the number of data points for which $v = 0, w = 0$ respectively, and let I_{uv}, I_{uw} be the respective empirical mutual information values based on the sample \mathcal{D} . Then*

$$N_{v0} > N_{w0} \Rightarrow I_{uv} \leq I_{uw}$$

with equality only if u is identically 0.

Proof. Left to the reader. ■

Appendix B. More Proofs

We now prove [Lemma 1](#) from [Appendix A](#).

Proof of [Lemma 1](#). We use the notation:

$$P_v(i) = \frac{N_v^i}{N}, \quad i \neq 0; \quad P_{v0} \equiv P_v(0) = 1 - \sum_{i \neq 0} P_v(i).$$

These values represent the (empirical) probabilities of v taking value $i \neq 0$ and 0 respectively. Entropies will be denoted by H . We aim to show that $\frac{\partial I_{uv}}{\partial P_{v0}} < 0 \dots$ ■

Remainder omitted in this sample. See <http://www.jmlr.org/papers/> for full paper.

References

- C. K. Chow and C. N. Liu. Approximating discrete probability distributions with dependence trees. *IEEE Transactions on Information Theory*, IT-14(3):462–467, 1968. (cited on p. [3](#))
- Judea Pearl. *Probabilistic Reasoning in Intelligent Systems: Networks of Plausible Inference*. Morgan Kaufman Publishers, San Mateo, CA, 1988. (cited on p. [3](#))