

In-Depth Statistical Analysis of Ritwik Distribution

{Ritwik, Ritwik, Ritwik} Gupta, Das, Rajendra
{ritwikg1, rsdas, ritwikr} @ andrew.cmu.edu

The Council of Ritwiks @ Carnegie Mellon

Abstract

The distribution of Ritwiks across the world is a question pursued by countless researchers across a variety of fields. A yet unanswered question¹, we seek to once and for all put this question to rest. We also provide auxiliary discussion and proofs demonstrating various statistical properties of the Ritwik population.

1 Distribution of Ritwiks

Comprehensive, boots on the ground research was done to effectively determine the distribution of Ritwiks across the world. Using Facebook², we were able to ascertain the location of and establish contact with Ritwiks everywhere (see Figure 1). We collected a large sample size ($N = 12$) and used Hamiltonian Monte

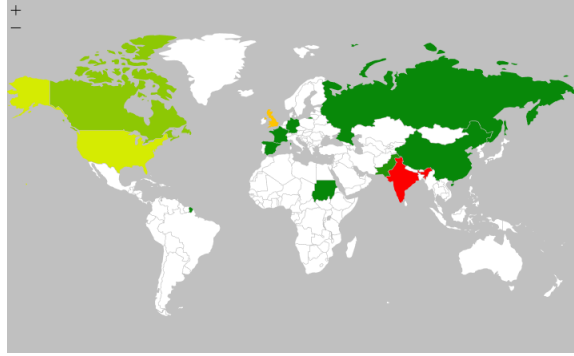


Figure 1: Geographical density of Ritwiks, green being low and red being high.

Carlo methods to simulate certain parameters that are backed by Bayesian goodness, undeniably proving that our method is rock solid. We cast a net out to collect the samples, the deep kind of net therefore guaranteeing the best sample. All data was analyzed with cutting edge tools [1, 2]. The following math not only looks cool, but makes reviewers think that we did real work because math makes it look that way.

$$Count_i \sim Poi(\lambda), \quad (1a)$$

$$\lambda \sim DiscreteUniform(0, 7e9), \quad (1b)$$

$$\int_{\lambda} \pi(q) f(q) \sum \frac{Var_{\pi}[f]}{ESS} \quad (1c)$$

¹https://scholar.google.com/scholar?hl=en&as_sdt=0%2C39&q=distribution+of+ritwiks&btnG=

²<https://facebook.com>

2 Popularity of “Ritwik” Over Time

Though Ritwiks themselves are insanely popular³, the name Ritwik itself has not seen widespread gain in usage throughout history. Using historical databases, we were able to reconstruct the usage of the name and use popular methods such as randomly drawing a line that looks about right to estimate the future usage of the name as well (see 2). As evident, the name Ritwik is predicted to skyrocket as this paper is made

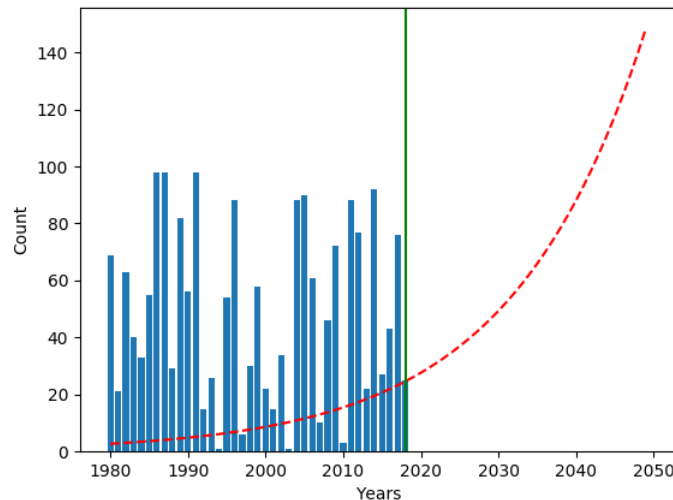


Figure 2: The occurrence of the name Ritwik over time. Green line represents the year this paper was published.

public. Eventually, all people will be named Ritwik, and the universe will be at peace.

3 On the Immortality of Ritwiks

Based on the vast quantity of Ritwiks we have met, none of them have been dead or deceased. As such, we are led to believe that all Ritwiks are immortal until the eventual heat death of the universe [3].

Lemma 1. *Given any Ritwik, the average lifespan of the individual will be ∞ .*

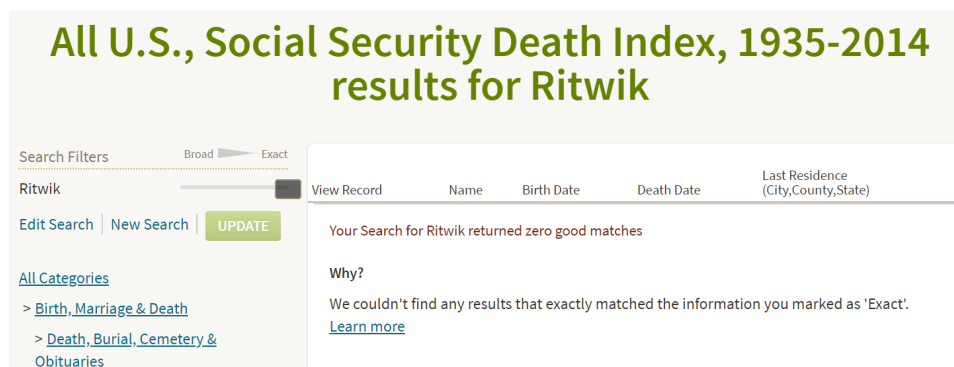


Figure 3: Search of the U.S. Social Security Death Index for “Ritwik”.

³Refer to our peers.

Proof. Let us assume that all Ritwiks die, for the sake of contradiction. Therefore, a record of death must exist within the United States Social Security Death Index⁴. However, we can see in Figure 3, no records of deceased Ritwiks exist. Therefore, Lemma 1 must hold. \square

4 Adversarial Ritwiks

With the recent successes in people being able to finally spell our name properly, adversarial attacks against our nomenclature have become prevalent. Simple affine transformations often result in massive confusion amongst peers and colleagues. An example of these transformations can be seen in Table 1 below. Many

Transformation
Ritvik
Ritwick
Rick
<i>“How about I call you Rob?”</i>

Table 1: Example of affine transformations on the name “Ritwik”

defenses exist against adversarial attacks against the name “Ritwik”. Papernot et. al. [4] suggests that distilling these toxic people out of your life demonstrates a sizable increase in the quality of life. However, many attacks have been shown directly bypassing distillation, which means that you’re stuck with hearing various people call you different names for the rest of your life, which as show in Section 3, is forever.

References

- [1] Matei Zaharia, Mosharaf Chowdhury, Tathagata Das, Ankur Dave, Justin Ma, Murphy McCauley, Michael J. Franklin, Scott Shenker, and Ion Stoica. Resilient distributed datasets: A fault-tolerant abstraction for in-memory cluster computing. In *Proceedings of the 9th USENIX Conference on Networked Systems Design and Implementation*, NSDI’12, pages 2–2, Berkeley, CA, USA, 2012. USENIX Association.
- [2] Fannesbeck C. Salvatier J., Wiecki T.V. Probabilistic programming in python using pymc3. In *PeerJ Computer Science*, 2016.
- [3] Chas A. Egan and Charles H. Lineweaver. A larger estimate of the entropy of the universe. 2009.
- [4] X. Wu S. Jha A. Swami N. Papernot, P. McDaniel. Distillation as a defense to adversarial perturbations against deep neural networks. In *2016 IEEE Symposium on Security and Privacy (SP)*, 2016.

⁴<http://search.ancestry.com/search/db.aspx?dbid=3693>