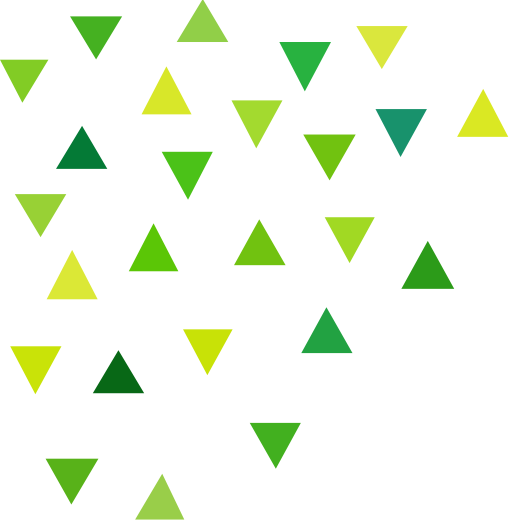
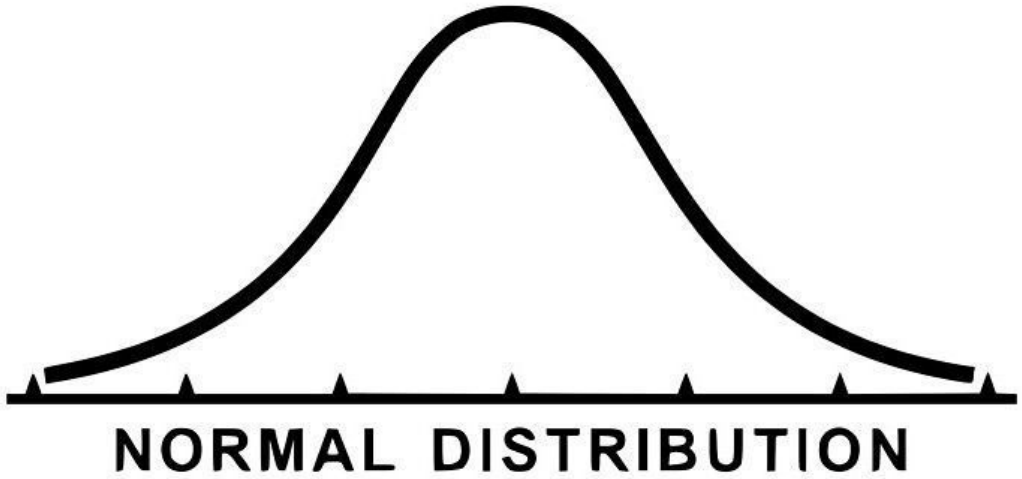
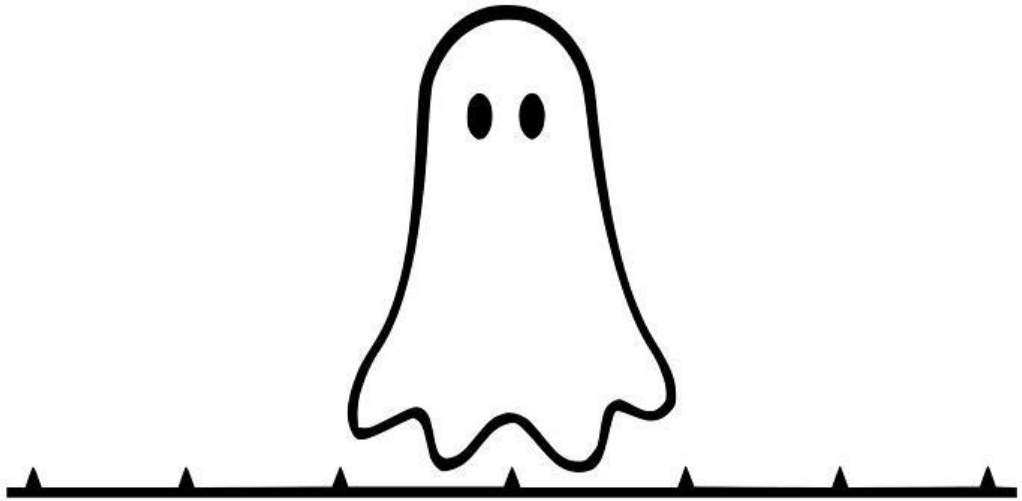


Cannabis Data Science #133

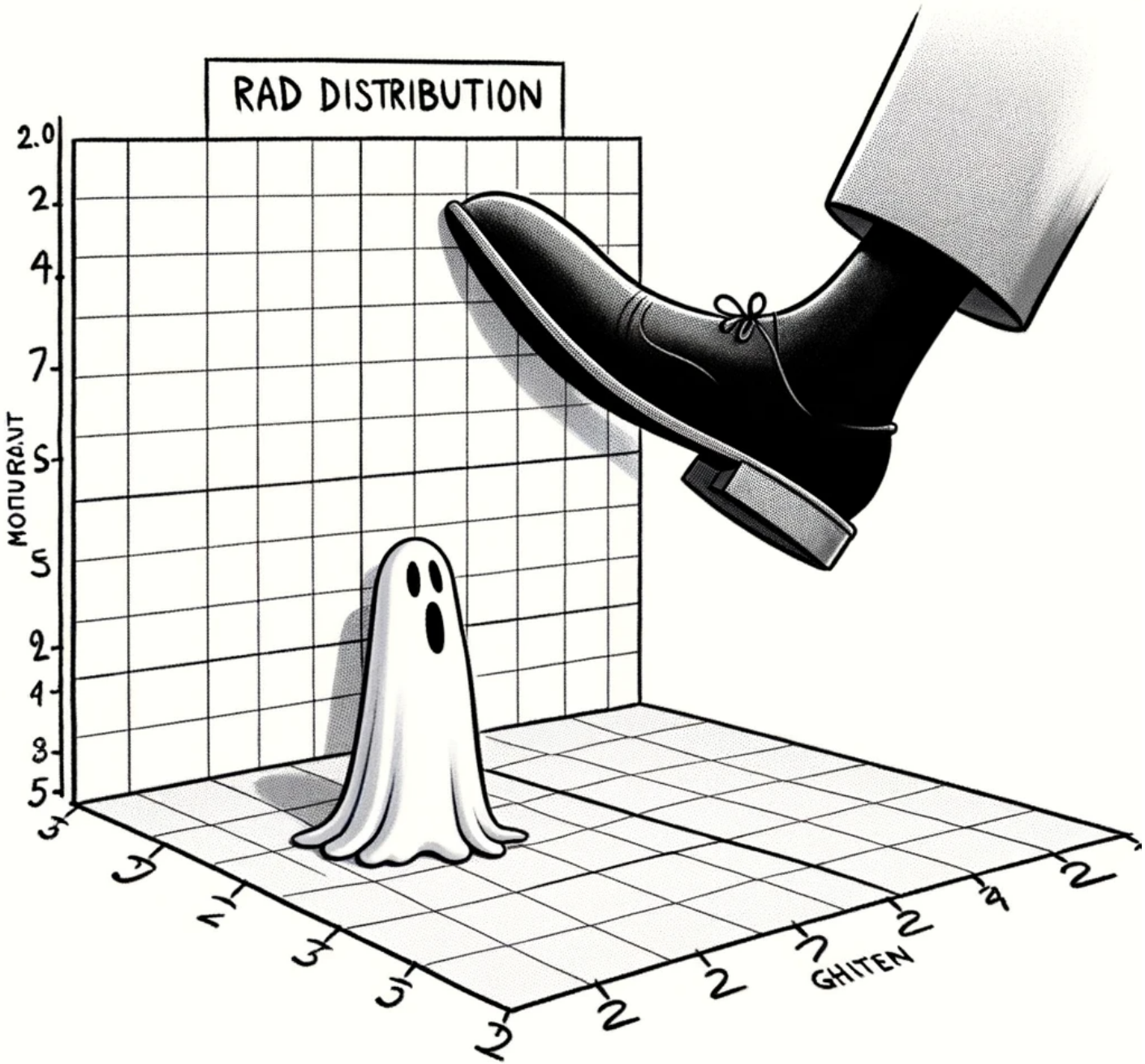
November 1st, 2023



NORMAL DISTRIBUTION



PARANORMAL DISTRIBUTION


RAD DISTRIBUTION
GHITEN

Cannabis Data Science Application

Question of the Day

- Is it possible to quantify the **diversity** of cannabis products in a market?

Diversity Measures

- **Abundance** - Quantity of each species.
- **Evenness** - Commonness or rarity of species.
- **Dominance** - The degree of species size.
- **Richness** - A simple count of species.

Hill Numbers

The **general equation of diversity** is:

$$ {}^{q}D = \left(\sum_{i=1}^{R} p_i^q \right)^{1/(1-q)} $$

Where:

- R is richness,
- p_i is the proportional abundance of the ith type,
- q is the sensitivity of the diversity value to rare and abundant species.

Diversity Metrics

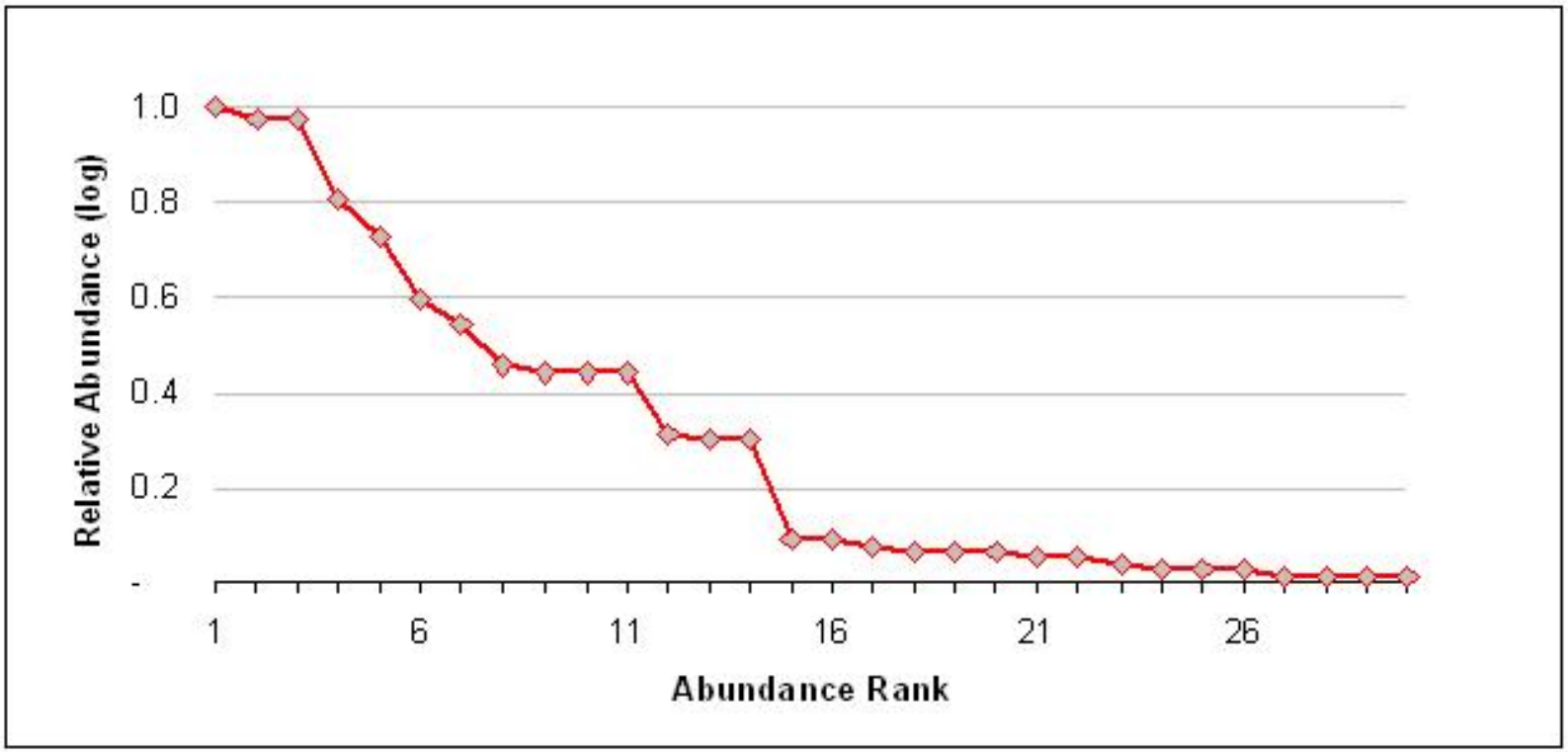
- **Shannon Index** - Quantifies uncertainty in predicting the species of a randomly chosen observation.

$$H' = -\sum_{i=1}^{R} p_i \ln(p_i)$$

- **Simpson Index** - Measures the degree of concentration of species.

$$\lambda = \sum_{i=1}^{R} p_i^2$$

Rank abundance curve



- **Richness** can be viewed as the number of different species.
- **Evenness** is reflected in the slope. Steeper gradients indicates lower evenness.

🙏 Thank you for coming.

Insight of the Day

- Ask and you shall receive.

What is on your mind for next week?