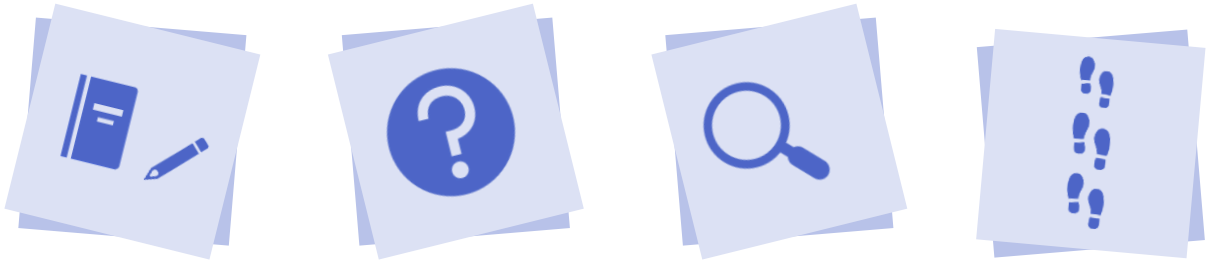
ApEn and SampEn In Forecasting

Once upon a time in the magical land of Data, there were two wise scholars named ApEn (Approximate Entropy) and SampEn (Sample Entropy).

These scholars were known far and wide for their ability to understand the secrets of predictability and randomness in time series data.

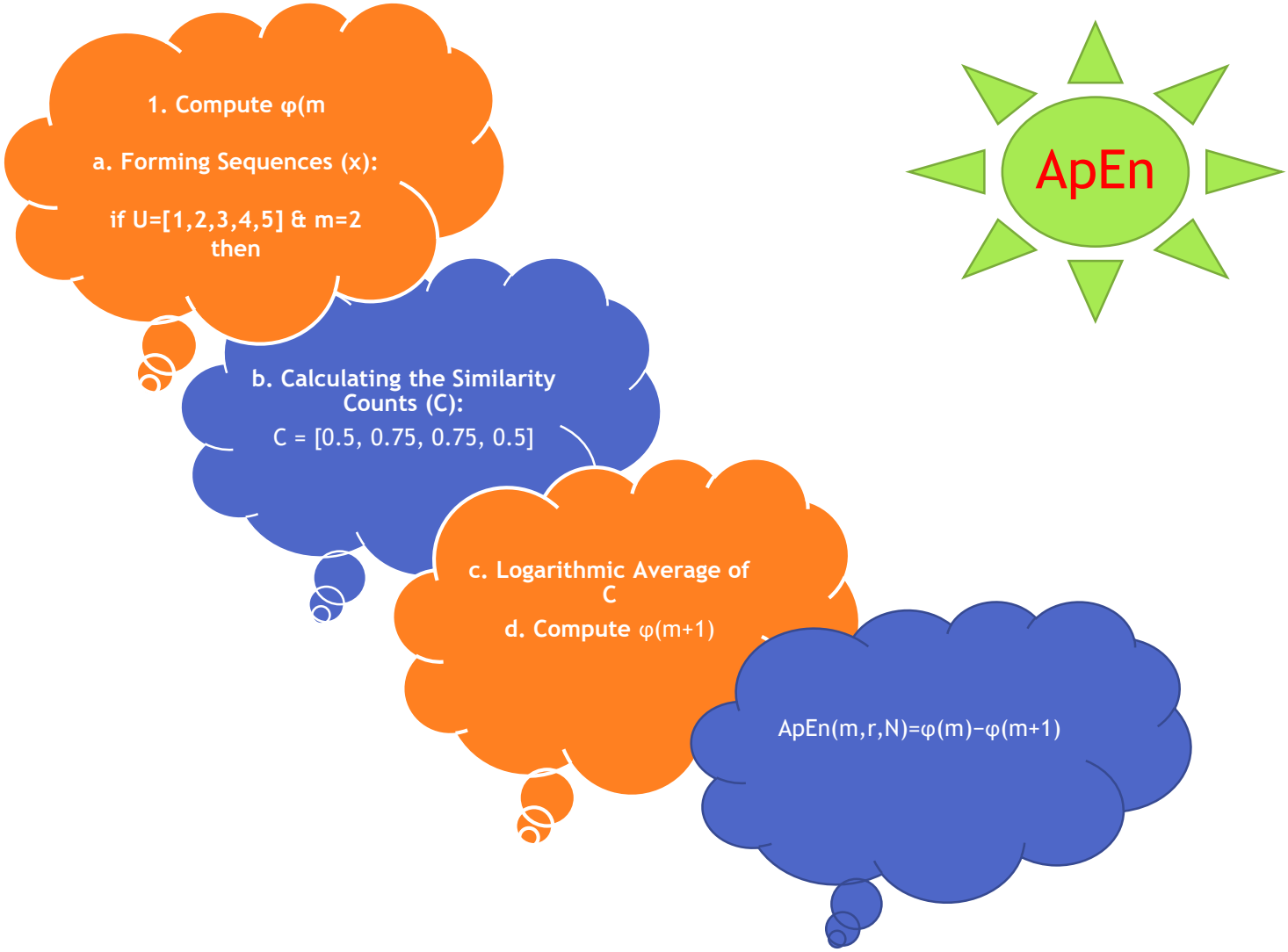
In the kingdom, people were fascinated by patterns, eager to predict the next events in sequences. Some sequences were orderly and predictable, like the royal guards marching in sync, while others were chaotic and random, like leaves dancing in the wind.

The king called upon ApEn and SampEn to help the people understand how predictable or unpredictable their sequences of numbers were.



ApEn: The Detective of Approximate Patterns

ApEn was a keen detective. His job was to find out how often patterns repeat in a sequence. Here's how he did it:



- For ApEn : Lower values suggest higher forecastability , while a higher value indicated more randomness and lower forecastability

SampEn: The Guardian of Sample Pattern

SampEn was the guardian of more refined patterns. He wanted to improve upon ApEn's methods by avoiding some of the pitfalls. Here's how SampEn approached the task.

- Lower SampEn values indicated more regularity and predictability, while higher values suggested more complexity and unpredictability

The King Concludes that, ApEn was great at providing a quick look, SampEn offered a more precise view by avoiding self-matches.

In the end, the people used the wisdom of ApEn and SampEn to make better decisions, predict future events, and bring more order to the kingdom of Data.

And thus, ApEn and SampEn became legends in the realm of time series analysis, their methods cherished by data analysts and researchers everywhere

Story by Rubhini.S

Thanks for reading…

Follow me on linkedIn for future updates

https://www.linkedin.com/in/rubhini-anand-8a1a29290/