TIC

TALENTO TECH

REGIÓN 3

CAUCA – NARIÑO

BOOTCAMP

ANÁLISIS DE DATOS

Universidad Tecnológica de Pereira

faceIT

TIC

MÓDULO 1 NIVEL EXPLORADOR

TALENTO TECH

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Contextualización de mis aprendizajes

This module focuses on developing an understanding through readings of how to extract meaningful insights from data and guides learners through the intricacies of decision-making enhanced by data analysis, emphasizing the role of predictive modeling for optimization. It also explores the fundamentals of statistics and probability, and covers both descriptive and inferential statistical methods. Finally, this module delves into the study of probabilities and various types of distributions, all in the context of data analysis.

Contextualización de mis aprendizajes

In the dynamic field of data analysis, understanding probability theory and the nuances of different distributions is paramount. Probability theory serves as the foundational framework, allowing analysts to quantify uncertainty and make informed decisions based on data patterns. This module will immerse learners in the intricacies of probability theory, distinguishing between discrete and continuous distributions. Discrete distributions involve distinct, separate outcomes, while continuous distributions encompass a range of possible values. The exploration will extend to confidence intervals, a statistical tool providing a range of values within which a population parameter is likely to lie. Additionally, the significance of p-values in hypothesis testing will be elucidated, unraveling their role in assessing the strength of evidence against a null hypothesis. As learners navigate through this module, they will gain a comprehensive understanding of these essential concepts, equipping them to engage effectively in the realm of data analysis and hypothesis testing.

Objetivo general

UNIDAD 1

- To equip participants with a comprehensive understanding of probability theory, various types of distributions (both discrete and continuous), confidence intervals, p-value, hypothesis testing, and statistical significance.
- Delve into the nuances of probabilities and distributions within the context of data analysis, fostering a strong foundation in statistical concepts essential for making informed decisions and drawing meaningful insights from data.

Competencias a desarrollar

- Linguistic competence.
- Pragmatic competence.
- Sociolinguistic competence.
- Topical Competence.

Linguistic Competence: acquiring and utilizing the specialized vocabulary and language structures associated with probability theory, data analysis, and statistical concepts. This involves understanding and effectively communicating ideas, principles, and findings using the appropriate linguistic forms within the field.

Pragmatic Competence: to apply the acquired knowledge in practical scenarios related to probability and data analysis. This involves understanding how language is used in context, making appropriate language choices, and employing effective communication strategies for statistical discussions and problem-solving.

Competencias a desarrollar

Sociolinguistic Competence: developed through an exploration of the social and cultural dimensions of probability theory and statistical concepts. Participants will gain an understanding of how language and communication practices vary in different sociocultural contexts, especially within the realm of data science and analysis.

Topical Competence: to comprehend, analyze, and discuss complex topics related to probability distributions, confidence intervals, p-values, hypotheses, and statistical significance. This involves becoming proficient in the subject matter and demonstrating a deep understanding of key concepts in probability theory and data analysis.

Activación de saberes previos

PLANTEAMIENTO DE LA SESIÓN

1) Introduce the technology idiom of the day.
2) Word Search game about probability distributions.
3) Socialize some key vocabulary about the video below "Probability: Types of Distributions".
4) Watch the video: "Probability: Types of Distributions".
5) Matching heading activity about the previous video.
6) Complete sentences based on the transcript of the video.
7) True/ False questions about the video "Probability: Types of Distributions".
8) Discuss some keywords of the reading "Types of Probability Distributions Every Data Science Expert Should know".
9) Reading: "Types of Probability Distributions Every Data Science Expert Should know".
10) Matching heading activity about the previous reading.
11) Category activity: Drag the sentences to the corresponding category.

MATERIALES

- **Video:** "Probability: Types of Distributions": https://www.youtube.com/watch?v=b9a27XN_6tg

- Probability Distributions Every Data Science Expert Should know": https://www.upgrad.com/blog/types-probability-distribution/#what-is-probability-distribution?%C2%A0

Activación de saberes previos

PLANTEAMIENTO DE LA SESIÓN

12) Socialize keywords of the reading "P-Value: What It Is, How to Calculate It, and Why It Matters".
13) Reading: "P-Value: What It Is, How to Calculate It, and Why It Matters".
14) Multiple-choice game based on the previous reading.

MATERIALES

- **Reading:** "P-Value: What It Is, How to Calculate It, and Why It Matters": https://www.investopedia.com/terms/p/p-value.asp