Basic Mathematics Pre-Machine Learning

Status: #child

Hashtags: #ML #mathematical-foundations

Tags:

Basic Mathematics Pre Machine Learning

Major Concept 1: Statistics & Probability

- **Minor: Descriptive Statistics**
  - *Subconcepts:* Mean, Median, Mode, Standard Deviation, Variance, Correlation, Histograms
- **Minor: Probability Foundations**
  - *Subconcepts:* Conditional Probability, Bayes' Theorem, Probability Distributions (Normal, Bernoulli)
- **Minor: Inferential Statistics**
  - *Subconcepts:* Hypothesis Testing, Confidence Intervals, p-values

Major Concept 2: Linear Algebra

- **Minor: Vectors**
  - *Subconcepts:* Vector Operations, Dot Product, Magnitude
- **Minor: Matrices**
  - *Subconcepts:* Matrix Multiplication, Transpose, Inverse

Major Concept 3: Calculus

- **Minor: Differential Calculus**
  - *Subconcepts:* Derivatives, Gradients, Chain Rule
- **Minor: Optimization**
  - *Subconcepts:* Cost/Loss Functions, Gradient Descent

Best Path for Beginners:-

Note:-

- ***Choosing path based on what is best for you is more important than u realise***

Path 1

Absolute Beginner, Repetition needed, Immediate application needed to learn

Minor: Descriptive Statistics

- Subconcepts: Mean, Median, Mode, Standard Deviation, Variance, Correlation, Histograms
- **Minor: Vectors**
  - *Subconcepts:* Vector Operations, Dot Product, Magnitude
- **Minor: Matrices**
  - *Subconcepts:* Matrix Multiplication
-
  - **Minor: Probability Foundations**
    - *Subconcepts:* Conditional Probability, Bayes' Theorem
- **Minor: Probability Foundations**
  - *Subconcepts:* Probability Distributions (Normal, Bernoulli)
- **Minor: Inferential Statistics**
  - *Subconcepts:* Hypothesis Testing, Confidence Intervals, p-values
- **Minor: Matrices**

- *Subconcepts:* Matrix Multiplication, Transpose, Inverse
- **Minor: Differential Calculus**
  - *Subconcepts:* Derivatives, Gradients, Chain Rule
- **Minor: Optimization**
  - *Subconcepts:* Cost/Loss Functions, Gradient Descent

Path 2 (Pure Efficiency, Sequential mastery)

- **Descriptive Statistics** (Mean, Median, Mode, Standard Deviation, Variance, Correlation, Histograms)
- **Vectors** (Vector Operations, Dot Product, Magnitude)
- **Probability Foundations** (Conditional Probability, Bayes' Theorem)
- **Matrices** (Matrix Multiplication, Transpose)
- **Probability Distributions** (Normal, Bernoulli)
- **Inferential Statistics** (Hypothesis Testing, Confidence Intervals, p-values)
- **Differential Calculus** (Derivatives, Gradients, Chain Rule)
- **Optimization** (Cost/Loss Functions, Gradient Descent)
- **Matrices (Advanced)** (Inverse)

path 3 (According to conceptual categorisation)

- Follow the initial concept breakdown flow

References

⚡

Closely Related Notes

Next:

Prev:

Closely Related Notes: