

Subject Incharge Brof Sara La Mary Page No. 16

PARTICIPANATH CHARTAGUS TRUST

A.P. SHAH INSTITUTE OF TECHNOLOGY

Department of Computer Science and Engineering
Data Science



Department of CSE-Data Science | APSIT

Semester: V . Subject : Statistics for AIDS Academic Year: 20,23-2024
Felt to A Itle
or is different from something else. Dearrole -
or is different from something else.
Beample:
Consider 2 dalaset A = 54,64 B= \$1,94.
A= 54,63 B-51,93
Let find the mean . X = 149
Maan T 416 10 2
2 2 × = 5
X -5
In both the cases the Mean is same, but the
dala distribution is different.
f4,63 → The data is near the mean It is
not that spread.
11,93 -> The data is spread far from mean.
This dispersion is known as variance.
0 1 1 1- 1- 1 1 1- 1 1- 1 1- 1 1- 1
$6^2 = \frac{1}{5} (y - \overline{y})^2$
The formula to calculate population variance x , $6^2 = \frac{1}{1-1} (x-\overline{x})^2$
N.
Leti calculate the valiance in both the case.
62 = (4-5)2 + (6-5)2 62 - (1-5)2 + (9-5)2
2
= (-4)2+ (4)2
$\frac{= (-4)^2 + (4)^2}{2}$
The variance has huge difference. = 16+16 = 32 - 16



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There are tion	formulas to	calculate	valiance.
× Fe	epulation variance	•	
* &	ample valiance		
			The state of the state of
1	Population	11/2/2017	
1	Sample.		
			Mary Mary
		Sample	variance
62	-72	1 62 - 1	(x-x)2
1 3	X-X)	1	LX-X)
NI NI		- 1	n-1)
1 14			11-1)
Compare N a	nel n-1 , n ie	greater the	un n-1
t n-1 is small	ei.	0	The gally
* It denomina	tor a smaller	then 62	is greater.
* we need the	value of or2	502 CL) approimately
it should	be equal. This	canbe	undustood
a transfer of the second secon			
by a graph		0	
-	1.01.11	1.1	
Sample	9		
	^1 -	0.1	-1
If we consider.	population X, wi	ill be mean	whereas
if we conside.	gample. X wil	l be mean.	The sourge
is very diffe	sample. X wil	them. To	make them
0		M. P. O. S. A.	



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approximately equal we have different denominators
Standard Deveation:

If quantity expressing by how much the members
of a group differ from the mean value for the group.

Example
Consider 2 data sets

History Text

Mathe Test

Mame Score Care (Abs(S-A))

Name Score Abs.

Mame		(Abs(S-A)		Score.	Abe
	8 core	MARY.	Name		100000000
_A	75	5	A	93	23
В	72	2	В	96	26
C	68	2	C	43	27
D	65	5	D	47	23
F	67	3	E	51	19
F	73	2	F	90 .	20
	(D) 53700	3-16-		AUTEN IN	23.

strenage = X = 70

strenage = X = 70

6= 70 15

50 55 60 65 70 75 80 85 90 95

Mean is some, but plotting in graph show wide spread of data.

3-16 is the mean absolute deviation for first data set. I 23 for the second data set there again it is wide opread.



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Subject Statistics for AIDS Academic Year: 2028-2024 case like this (3-A)2 Score Name Abe SLOYE (B-A) Name 13 23 169 A 75 25 70 0 0 70 68 63 D 49 65 E 70 67 0 70 F 73 3.33 12.66 (Arg) 8.33 3.55 VA = 20 08 70 75 80 85 Wide Spread. Data distribution a wide. unber the data is more spread. gives you clear nesult of dala distribution. wide spread in dalascience