

Question Based on Variance

Data Science and A.I. Lecture Series

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PostNetwork Academy

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Example

The scores of a batsman in 10 matches were as follows: 38, 70, 48, 34, 42, 55, 63, 46, 54, 44. Compute the variance and standard deviation.

x_i	$d_i = x_i - 48$	d_i^2
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70		
48		
34		
42		
55		
63		
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44		

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x_i	$d_i = x_i - 48$	d_i^2
38	-10	100
70	22	
48	0	
34	-14	
42	-6	
55	7	
63	15	
46	-2	
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x_i	$d_i = x_i - 48$	d_i^2
38	-10	100
70	22	484
48	0	
34	-14	
42	-6	
55	7	
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$$\sum d_i = 14$$

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$$\text{Var}(X) = \frac{1}{n}(\sum d_i^2) - \left(\frac{1}{n} \sum d_i\right)^2$$

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$$S.D. = \sqrt{\text{Var}(X)} = \sqrt{112.64} = 10.61$$