OneNote for Windows 10

Home Insert Draw View Help

Shapes Ink to Shape Ink to Text

100 Days of ML

- Day 21 - Bivariate...
- Day 22 - Pandas Pr...
- Day 23 - Feature E...
- Day 24 - Standardi...
- Day 25 - Normaliza...
- Day 26 - Ordinal E...
- Day 27 - One Hot E...
- Day 28 - ColumnTr...
- Day 29 - Pipelines
- Day 30 - Function T...
- Day 31 - Power Tra...
- Day 32 - Discrtizati...
- Day 33 - Working-...
- Day 34 - Working...
- Day 35 - Complete...
- Day 36 - Handling...
- Day 37 - Handling...
- Day38-Missing Indi...
- Day39 - KNN Impu...

Add section Add page

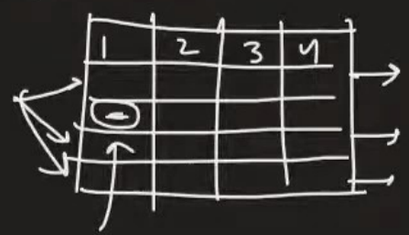
KNN Imputer

Working

KNN Imputer

Tuesday, April 27, 2021 12:19 PM

mean



KNN Imputer

Iterative Imputer

OneNote for Windows 10

Home Insert Draw View Help

Shapes Ink to Shape Ink to Text

100 Days of ML

- Day 21 - Bivariate...
- Day 22 - Pandas Pr...
- Day 23 - Feature E...
- Day 24 - Standardi...
- Day 25 - Normaliza...
- Day 26 - Ordinal E...
- Day 27 - One Hot E...
- Day 28 - ColumnTr...
- Day 29 - Pipelines
- Day 30 - Function T...
- Day 31 - Power Tra...
- Day 32 - Discrtizati...
- Day 33 - Working-...
- Day 34 - Working...
- Day 35 - Complete...
- Day 36 - Handling...
- Day 37 - Handling...
- Day38-Missing Indi...
- Day39 - KNN Impu...

Add section Add page

KNN Imputer

Working

Working

Tuesday, April 27, 2021 7:44 AM

KNN euclidean

(33, ⊖, 67, 21) (1) (2) = ?

Knn nan_euclidean - distance

→ find k nearest nis

→ find the value

(x, y)

(x, y, z)

$$\sqrt{(x_2-x_1)^2+(y_2-y_1)^2+z}$$

S NO	Feature 1	Feature 2	Feature 3	Feature 4
1	33	-----	67	21
2	-----	45	68	12
3	23	51	71	18
4	40	-----	81	------
5	35	60	79	------

dist(x,y) = sqrt(weight * sq. distance from present coordinates)
where,
weight = (Total # of coordinates) / (# of present coordinates)

Distance from Pt 1

$$d = \sqrt{\frac{3}{2}((68-67)^2+(12-21)^2}$$

$$= \sqrt{1.5(4+81)} = \sqrt{127.5} = 11.29$$

Distance from pt 3

$$d = \sqrt{\frac{3}{3}((51-45)^2+(71-68)^2+(18-12)^2}$$

$$= \sqrt{36+9+36} = 9$$

OneNote for Windows 10

Home Insert Draw View Help

Shapes Ink to Shape Ink to Text

100 Days of ML

- Day 21 - Bivariate...
- Day 22 - Pandas Pr...
- Day 23 - Feature E...
- Day 24 - Standardi...
- Day 25 - Normaliza...
- Day 26 - Ordinal E...
- Day 27 - One Hot E...
- Day 28 - ColumnTr...
- Day 29 - Pipelines
- Day 30 - Function T...
- Day 31 - Power Tra...
- Day 32 - Discrtizati...
- Day 33 - Working-...
- Day 34 - Working...
- Day 35 - Complete...
- Day 36 - Handling...
- Day 37 - Handling...
- Day38-Missing Indi...
- Day39 - KNN Impu...

Add section Add page

KNN Imputer

Working

Working

Tuesday, April 27, 2021 7:44 AM

$$\sqrt{\frac{3}{2}\left((67-68)^2+(21-12)^2\right)}$$

weight

$\frac{3}{2}$

S NO	Feature 1	Feature 2	Feature 3	Feature 4
1	33	-----	67	21
2	-----	45	68	12
3	23	51	71	18
4	40	-----	81	------
5	35	60	79	------

2 13

dist(x,y) = sqrt(weight * sq. distance from present coordinates)
where,
weight = (Total # of coordinates) / (# of present coordinates)

Distance from Pt 1

$$d = \sqrt{\frac{3}{2}\left((68-67)^2+(12-21)^2\right)}$$

$$= \sqrt{1.5(1+81)} = \sqrt{127.5} = 11.29$$

Distance from pt 3

$$d = \sqrt{\frac{3}{3}\left((51-45)^2+(71-68)^2+(18-12)^2\right)}$$

$$= \sqrt{36+9+36} = 9$$

OneNote for Windows 10

Home Insert Draw View Help

Shapes Ink to Shape Ink to Text

100 Days of ML

- Day 21 - Bivariate...
- Day 22 - Pandas Pr...
- Day 23 - Feature E...
- Day 24 - Standardi...
- Day 25 - Normaliza...
- Day 26 - Ordinal E...
- Day 27 - One Hot E...
- Day 28 - ColumnTr...
- Day 29 - Pipelines
- Day 30 - Function T...
- Day 31 - Power Tra...
- Day 32 - Discrtizati...
- Day 33 - Working-...
- Day 34 - Working...
- Day 35 - Complete...
- Day 36 - Handling...
- Day 37 - Handling...
- Day38-Missing Indi...
- Day39 - KNN Impu...

Add section Add page

KNN Imputer

Working

Working

Tuesday, April 27, 2021 7:44 AM

$$\sqrt{((67-68)^2 + (21-12)^2)}$$

weight $\frac{3}{2}$

$$\sqrt{1 \times (51-45)^2 + (68-71)^2 + (12-18)^2}$$

$\frac{3}{3}$

S NO	Feature 1	Feature 2	Feature 3	Feature 4
1	33	-----	67	21
2	-----	45	68	12
3	23	51	71	18
4	40	-----	81	------
5	35	60	79	------

dist(x,y) = sqrt(weight * sq. distance from present coordinates)
where,
weight = (Total # of coordinates) / (# of present coordinates)

Distance from Pt 1

$$d = \sqrt{\frac{3}{2}((68-67)^2 + (12-21)^2}$$

$$= \sqrt{1.5(1+81)} = \sqrt{127.5} = 11.29$$

Distance from pt 3

$$d = \sqrt{\frac{3}{3}((51-45)^2 + (71-68)^2 + (18-12)^2}$$

$$= \sqrt{36+9+36} = 9$$

OneNote for Windows 10

Home Insert Draw View Help

Shapes Ink to Shape Ink to Text

100 Days of ML

- Day 21 - Bivariate...
- Day 22 - Pandas Pr...
- Day 23 - Feature E...
- Day 24 - Standardi...
- Day 25 - Normaliza...
- Day 26 - Ordinal E...
- Day 27 - One Hot E...
- Day 28 - ColumnTr...
- Day 29 - Pipelines
- Day 30 - Function T...
- Day 31 - Power Tra...
- Day 32 - Discrtizati...
- Day 33 - Working-...
- Day 34 - Working...
- Day 35 - Complete...
- Day 36 - Handling...
- Day 37 - Handling...
- Day38-Missing Indi...
- Day39 - KNN Impu...

Add section

KNN Imputer

Working

Add page

1	33	-----	67	21
2	-----	45	68	12
3	23	51	71	18
4	40	-----	81	------
5	35	60	79	-----

Distance from Pt 1

$$d = \sqrt{\frac{3}{2}((68-17)^2 + (12-21)^2}$$

$$= \sqrt{1.5(4+81)} = \sqrt{127.5} = 11.29$$

Distance from pt 3

$$d = \sqrt{\frac{3}{3}((51-45)^2 + (71-68)^2 + (18-12)^2}$$

$$= \sqrt{36+9+36} = 9$$

Distance from pt 4

$$d = \sqrt{\frac{3}{1}((81-68))^2}$$

$$d = \sqrt{3(9)} = \sqrt{27} = 5.19$$

Distance from pt 5

$$d = \sqrt{\frac{3}{2}((60-45)^2 + (79-68)^2}$$

$$= \sqrt{1.5(25+121)} = \sqrt{219} = 14.79$$

Advantage & Disadvantage

$= \sqrt{1.5(4+81)} = \sqrt{127.5} = 11.29$

Distance from pt 4

$d = \sqrt{\frac{3}{1}((81-68))^2}$

$d = \sqrt{3(9)} = \sqrt{27} = 5.19$

$d = \sqrt{\frac{3}{2}((60-45)^2+(79-68)}$

$= \sqrt{1.5(25+121)} = \sqrt{219} = 14.79$

Advantage & Disadvantage

1) More accurate
2) More no. of calculations →
3) Prediction → X_train →