

# ML 8 - Unit Vector By Virat Tiwari

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## 1 Unit Vector Feature Scaling

```
[1]: import seaborn as sns
```

```
[3]: df=sns.load_dataset("iris")
```

```
[4]: df.head()
```

```
[4]:
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
[5]: from sklearn.preprocessing import normalize
```

```
[6]: df.columns
```

```
[6]: Index(['sepal_length', 'sepal_width', 'petal_length', 'petal_width',  
         'species'],  
        dtype='object')
```

```
[11]: normalize(df[['sepal_length', 'sepal_width', 'petal_length', 'petal_width']])
```

```
[11]: array([[0.80377277, 0.55160877, 0.22064351, 0.0315205 ],  
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```

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```

```
[12]: import pandas as pd
```

```
[14]: pd.DataFrame(normalize(df[['sepal_length', 'sepal_width', 'petal_length',
↪ 'petal_width']] ), columns=['sepal_length', 'sepal_width', 'petal_length',
↪ 'petal_width'])
```

```
[14]:
```

	sepal_length	sepal_width	petal_length	petal_width
0	0.803773	0.551609	0.220644	0.031521
1	0.828133	0.507020	0.236609	0.033801
2	0.805333	0.548312	0.222752	0.034269
3	0.800030	0.539151	0.260879	0.034784
4	0.790965	0.569495	0.221470	0.031639
..	...	...	...	...
145	0.721557	0.323085	0.560015	0.247699
146	0.729654	0.289545	0.579090	0.220054
147	0.716539	0.330710	0.573231	0.220474
148	0.674671	0.369981	0.587616	0.250281
149	0.690259	0.350979	0.596665	0.210588

[150 rows x 4 columns]

THANK YOU SO MUCH !!

YOURS VIRAT TIWARI :)