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Note: Files such as "./astro/original/train.transform" don't actually exist.
      They are calculated at execution as I didn't want to write a function
      that saved them in the correct format to be parsed.
Also: I reduced to 5-fold cross validation and only 10 epochs as it was
      taking too long to run on CADE, though my final results reflect
      10-fold cross validation and 30 epochs.
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=====
Performing 10-fold Cross Validation for: ./astro/original/train
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Original furthest from origin:
[ 1.34611000e+02  5.81073100e+02 -1.44179400e-01  1.66310800e+02]
Distance from origin: 619.214

```

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Furthest from the origin after tranformation:
[ 1.81201213e+04  7.82188311e+04 -1.94081332e+01  2.23872631e+04
  7.82188311e+04  3.37645948e+05 -8.37787709e+01  9.66387321e+04
 -1.94081332e+01 -8.37787709e+01  2.07876994e-02 -2.39785914e+01
  2.23872631e+04  9.66387321e+04 -2.39785914e+01  2.76592822e+04]
Distance from origin: 383425.372

```

Accuracy and Parameters:

```

-----
Accuracy      C      rho
-----
0.86861      0.010    0.001
0.77896      0.010    0.010
0.74368      0.010    0.100
0.72993      0.001    0.100
0.72977      1.000    0.010

```

Testing the data

C: 0.010
rho: 0.001
Accuracy: 0.8485
Margin: 12.289

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=====
Performing 10-fold Cross Validation for: ./astro/original/train.transform
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Accuracy and Parameters:

```

-----
Accuracy      C      rho
-----
0.69676      0.001    0.001
0.69349      0.001    0.100
0.68252      10.000   0.001
0.66990      10.000   0.010
0.66764      1.000    0.001

```

Testing the data

C: 0.001
rho: 0.001
Accuracy: 0.6475
Margin: 141.899

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=====
Performing 10-fold Cross Validation for: ./astro/scaled/train
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Original furthest from origin:
[-0.980394 -0.91751  0.932665  0.992551]
Distance from origin: 1.913
```

```
Furthest from the origin after tranformation:
[ 0.9611724  0.8995213 -0.91437917 -0.97309105  0.8995213  0.8418246
 -0.85572946 -0.91067547 -0.91437917 -0.85572946  0.869864  0.92571758
 -0.97309105 -0.91067547  0.92571758  0.98515749]
Distance from origin: 3.658
```

```
Accuracy and Parameters:
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```
-----
Accuracy      C      rho
-----
0.70613      100.000    0.001
0.68055      100.000    0.010
0.67539      100.000    1.000
0.65662      100.000    0.100
0.60181      10.000     1.000
```

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Testing the data
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```
      C: 100.000
      rho: 0.001
Accuracy: 0.5040
Margin: 0.030
```

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=====
Performing 10-fold Cross Validation for: ./astro/scaled/train.transform
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Accuracy and Parameters:
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-----
Accuracy      C      rho
-----
0.60224      100.000    0.100
0.58704      100.000    0.010
0.58477      100.000    0.001
0.56138      100.000    1.000
0.41606      10.000     0.100
```

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Testing the data
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```
      C: 100.000
      rho: 0.100
Accuracy: 0.6096
Margin: 0.148
```

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=====
Performing 10-fold Cross Validation for: ./data0/train0.10
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Accuracy and Parameters:
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```
-----
Accuracy      C      rho
-----
0.80000      10.000    0.010
0.79700      100.000    0.001
0.72700      10.000    0.001
```

0.72000	10.000	0.100
0.64300	10.000	1.000

Testing the data

C: 10.000
rho: 0.010
Accuracy: 0.7020
Margin: 0.554