# Test Case 6:

We have mentioned that when we started testing with four video sets (circle, rectangle, pentagon, and triangle) we faced some issues with pentagon video set. We have done detailed analysis about these problems and included our findings in **TestReport4(Run2New).** We faced similar problems when we started testing with our **Star** videoset.However, we have solved the problem regarding the **Star** video set by reducing the frame gap duration from 0.4s to 0.2s while creating the video. For this reason, we have got significantly better results with our experiments (**all training phases completed rather than stuck at newborn states**). By keeping maxCycles, frameHeight, frameWidth and GetPredictedInputValues (3 for all cases) unchanged, we have manipulated ColumnDimensions and CellsPerColumn parameters in the htmConfig.json. We have trained the model with our newly created Star video set and other four video sets (circle, rectangle, triangle and pentagon).

1. We have got the following results (training accuracy) when the ColumnDimensions = **2048** and CellsPerColumn = **40**. [We have used significantly larger video sets (5 videos). That’s, why we have started from higher column dimensions]. Total Runtime: **13 hrs 19 minutes**.
2. Video Set of Label: **Circle reaches accuracy: 100%**

Saturated Accuracy reached after**: 9 cycles** stable pattern reached

1. Video Set of Label: **Pentagon reaches accuracy: 72.72727%**

Saturated Accuracy reached after**: 83 cycles** stable pattern reached

1. Video Set of Label: **Rectangle reaches accuracy: 100%**

Saturated Accuracy reached after**: 831 cycles** stable pattern reached

1. Video Set of Label: **Star reaches accuracy: 91.667%**

Saturated Accuracy reached after**: 112 cycles** stable pattern reached

1. Video Set of Label: **Triangle reaches accuracy: 85.7142857142857%**

Saturated Accuracy reached after**: 563 cycles** stable pattern reached

**Average Accuracy: 90.0217114%**

1. We have got the following results (training accuracy) when the ColumnDimensions = **2048** and CellsPerColumn = **80**. Total Runtime: **15 hrs 26 minutes.**
2. Video Set of Label: **Circle reaches accuracy: 100%**

Saturated Accuracy reached after**: 10 cycles** stable pattern reached

1. Video Set of Label: **Pentagon reaches accuracy: 72.72727%**

Saturated Accuracy reached after**: 122 cycles** stable pattern reached

1. Video Set of Label: **Rectangle reaches accuracy: 97.14285714285714%**

Saturated Accuracy reached after**: 700 cycles** stable pattern reached

1. Video Set of Label: **Star reaches accuracy: 79.1667%**

Saturated Accuracy reached after**: 130 cycles** stable pattern reached

1. Video Set of Label: **Triangle reaches accuracy: 85.7142857142857%**

Saturated Accuracy reached after**: 665 cycles** stable pattern reached

**Average Accuracy: 86.95022257%**

1. We have got the following results (training accuracy) when the ColumnDimensions = **2048** and CellsPerColumn = **160**. Total Runtime: **18 hrs 21 minutes.**
2. Video Set of Label: **Circle reaches accuracy: 100%**

Saturated Accuracy reached after**: 10 cycles** stable pattern reached

1. Video Set of Label: **Pentagon reaches accuracy: 77.27273%**

Saturated Accuracy reached after**: 100 cycles** stable pattern reached

1. Video Set of Label: **Rectangle reaches accuracy: 97.14285714285714%**

Saturated Accuracy reached after**: 767 cycles** stable pattern reached

1. Video Set of Label: **Star reaches accuracy: 79.16666666666666%**

Saturated Accuracy reached after**: 54 cycles** stable pattern reached

1. Video Set of Label: **Triangle reaches accuracy: 91.42857142857143%**

Saturated Accuracy reached after**: 666 cycles** stable pattern reached

**Average Accuracy: 89.00216491%**

1. We have got the following results (training accuracy) when the ColumnDimensions = **4096** and CellsPerColumn = **80**. Total Runtime: **27 hrs 7 minutes.**
2. Video Set of Label: **Circle reaches accuracy: 100%**

Saturated Accuracy reached after**: 10 cycles** stable pattern reached

1. Video Set of Label: **Pentagon reaches accuracy: 68.18181818181817 %**

Saturated Accuracy reached after**: 65 cycles** stable pattern reached

1. Video Set of Label: **Rectangle reaches accuracy: 100%**

Saturated Accuracy reached after**: 805 cycles** stable pattern reached

1. Video Set of Label: **Star reaches accuracy: 83.33333333333334 %**

Saturated Accuracy reached after**: 99 cycles** stable pattern reached

1. Video Set of Label: **Triangle reaches accuracy: 88.57142857142857 %**

Saturated Accuracy reached after**: 665 cycles** stable pattern reached

**Average Accuracy: 88.01731531%**

So, we have Analysed that for five video sets we got the optimum average training set accuracy when the ColumnDimensions = **2048** and CellsPerColumn = **40.**