A moving average filter (of size $n = 9$) was applied to the raw data supplied by the algorithm in order to smoothen the curve and to obtain peak value at systole easily.

The above figure is of the Parent vessel Max Velocity during the entire heart cycle.
This is the maximum velocity profile of the upper vessel after the application of the moving average filter (same as applied above)
This is the max velocity profile of the lower vessel after using the moving average filter.

Final Values:

1) averageFlowRate = 0.9682 ml/sec
2) flowSplitRatio = 1.5964