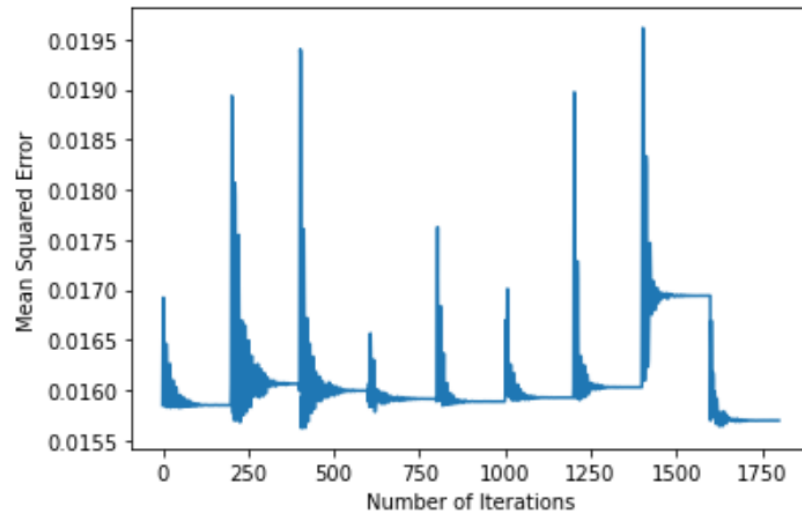


**Sine Function Approximation with Sigmoid Activation**

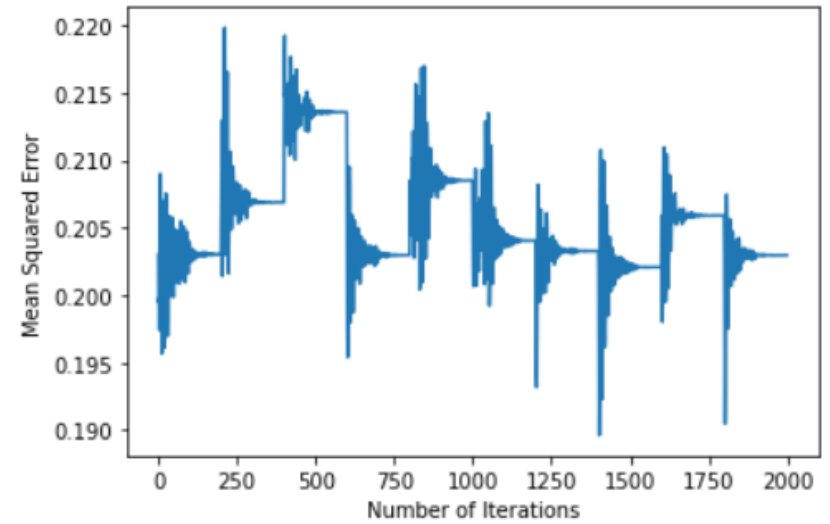
10 Independent Experiments



Over 10 experiments (each with 200 iterations)

**Sine Function Approximation with TanH Activation**

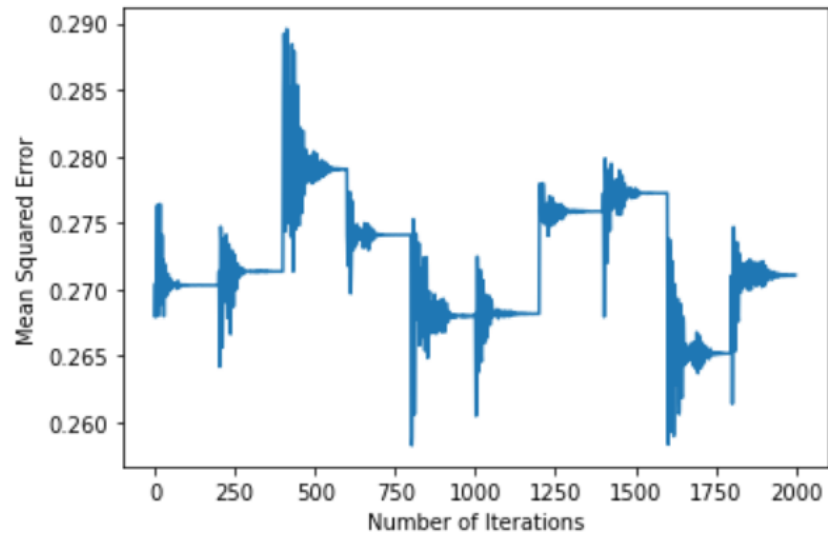
10 Independent Experiments



Over 10 experiments (each with 200 iterations)

**Sine Function Approximation with Linear Activation**

10 Independent Experiments



Over 10 experiments (each with 200 iterations)

**Sine function approximation:**

PSO parameters	Sigmoid activation function	Hyperbolic Tangent activation function	Linear activation function
Swarm size	100	100	100
Informants	10	25	6
Epsilon	0.2	0.2	0.2
Alpha range	0.9	0.9	0.9
Position range	-0.1 to 0.09	-0.1 to 0.09	-0.1 to 0.09
Velocity range	0.05 to 0.25	0.05 to 0.25	0.05 to 0.25
Cognitive component	1	1.4	1.7
Social component	3	2.9	3.2
Hidden Layer nodes	5	8	5
Least MSE (approx)	0.015	0.2	0.27

**Figure 5**