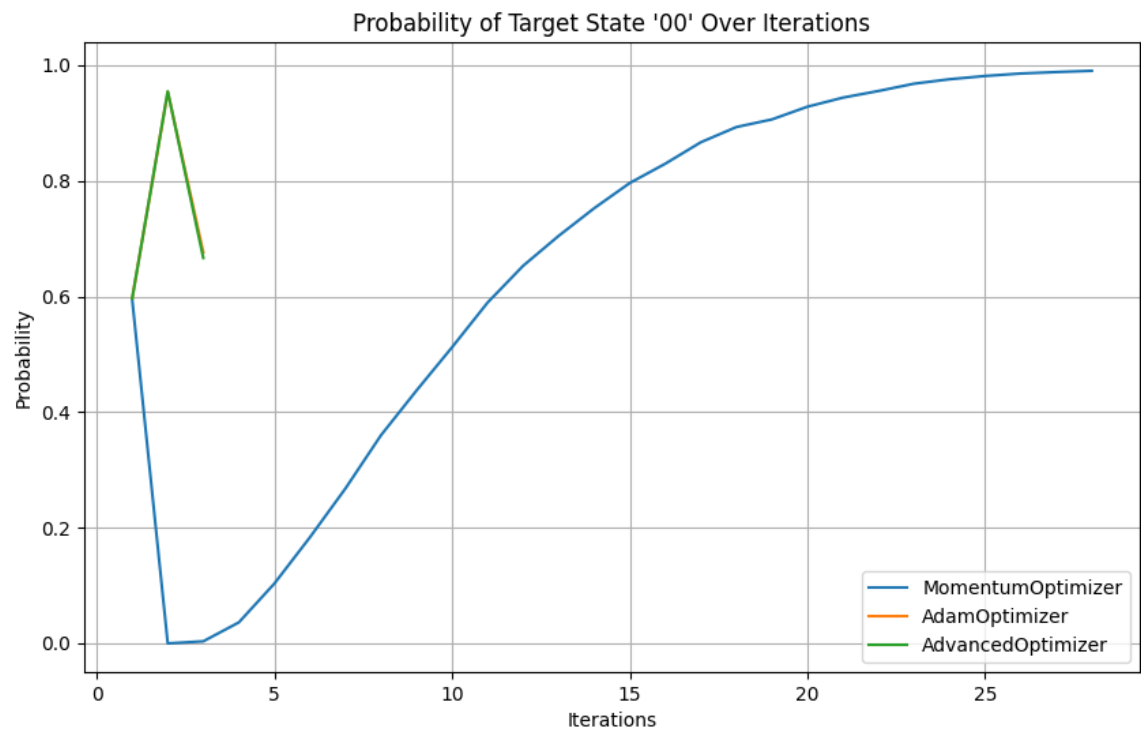


# Training Report - Target State: 00

Generated on: 2025-01-26 07:51:41



## Loss and Probability Plots:

The above plots show the evolution of the target state probability and the loss function over iterations for each optimizer.

## Training Progress Overview:

Optimizer	Initial Probability	Max Probability	Final Probability	Iterations
MomentumOptimizer	0.935	0.991	0.991	28
AdamOptimizer	0.935	0.954	0.676	3
AdvancedOptimizer	0.935	0.955	0.667	3

## Thread Details:

MomentumOptimizer: Start Time = 2025-01-26 07:47:11, End Time = 2025-01-26 07:50:53, CPU Usage = 123.30%

AdamOptimizer: Start Time = 2025-01-26 07:50:53, End Time = 2025-01-26 07:51:16, CPU Usage = 122.40%

AdvancedOptimizer: Start Time = 2025-01-26 07:51:16, End Time = 2025-01-26 07:51:40, CPU Usage = 122.60%

**Optimizer Metrics and Final Distributions:**

MomentumOptimizer: Final Probability = 0.987, Metrics = {}

Distribution: {'11': 2, '01': 65, '10': 61, '00': 9872}

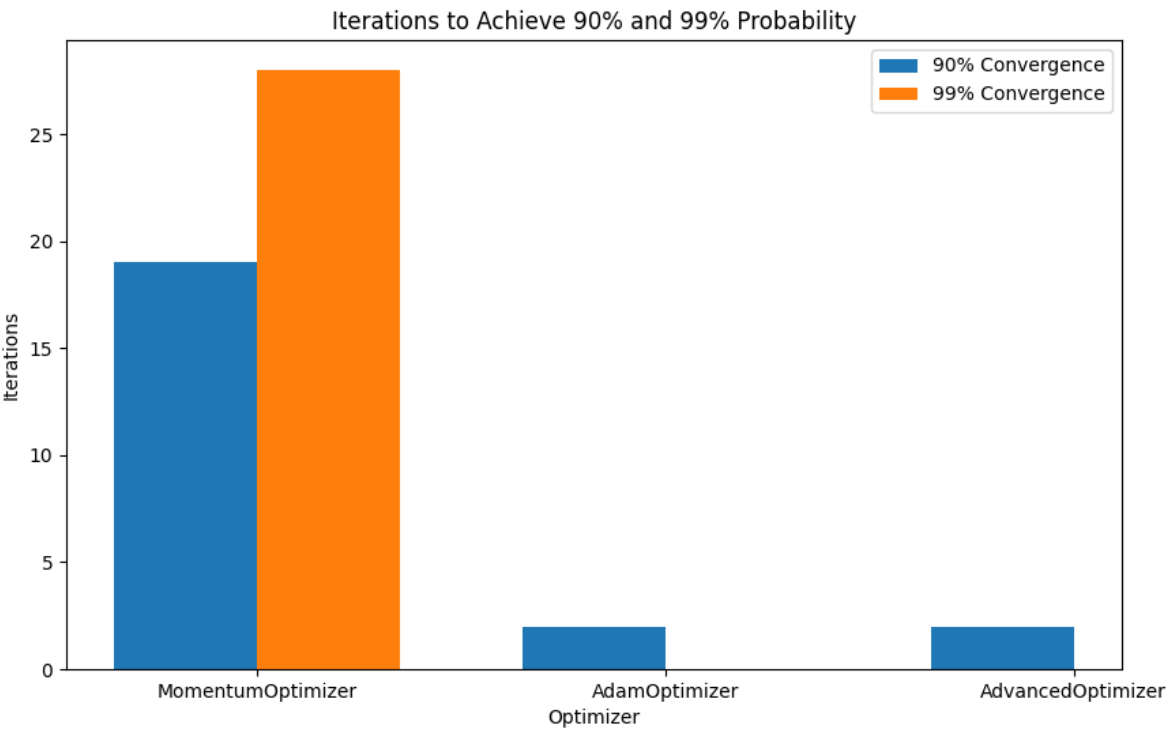
AdamOptimizer: Final Probability = 0.665, Metrics = {}

Distribution: {'11': 206, '01': 2658, '10': 484, '00': 6652}

AdvancedOptimizer: Final Probability = 0.678, Metrics = {}

Distribution: {'01': 2495, '11': 211, '10': 511, '00': 6783}

**Best Optimizer: MomentumOptimizer with Probability 0.987**



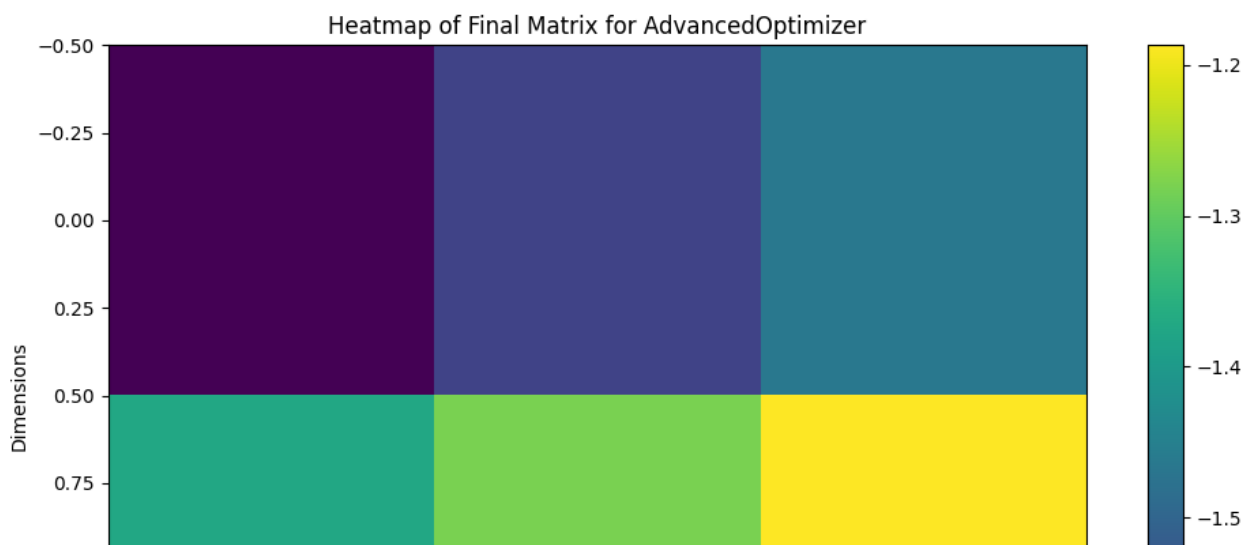
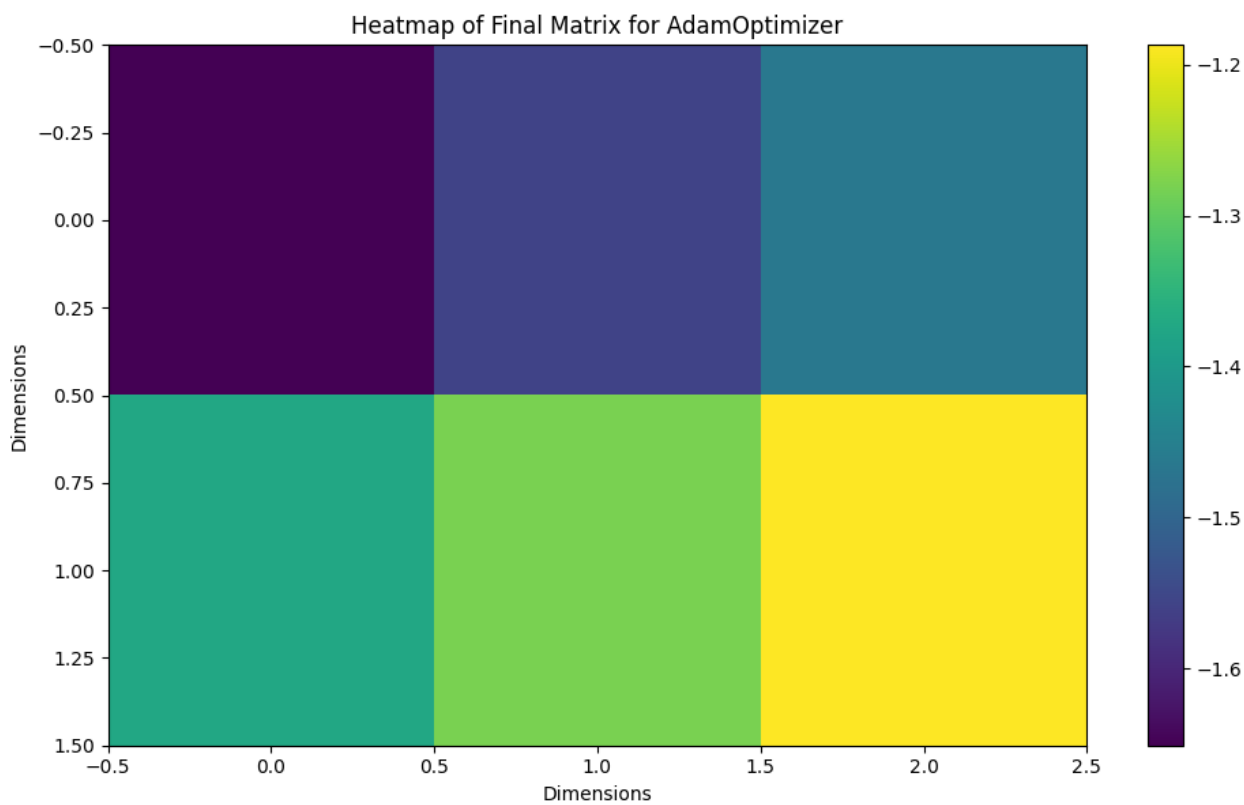
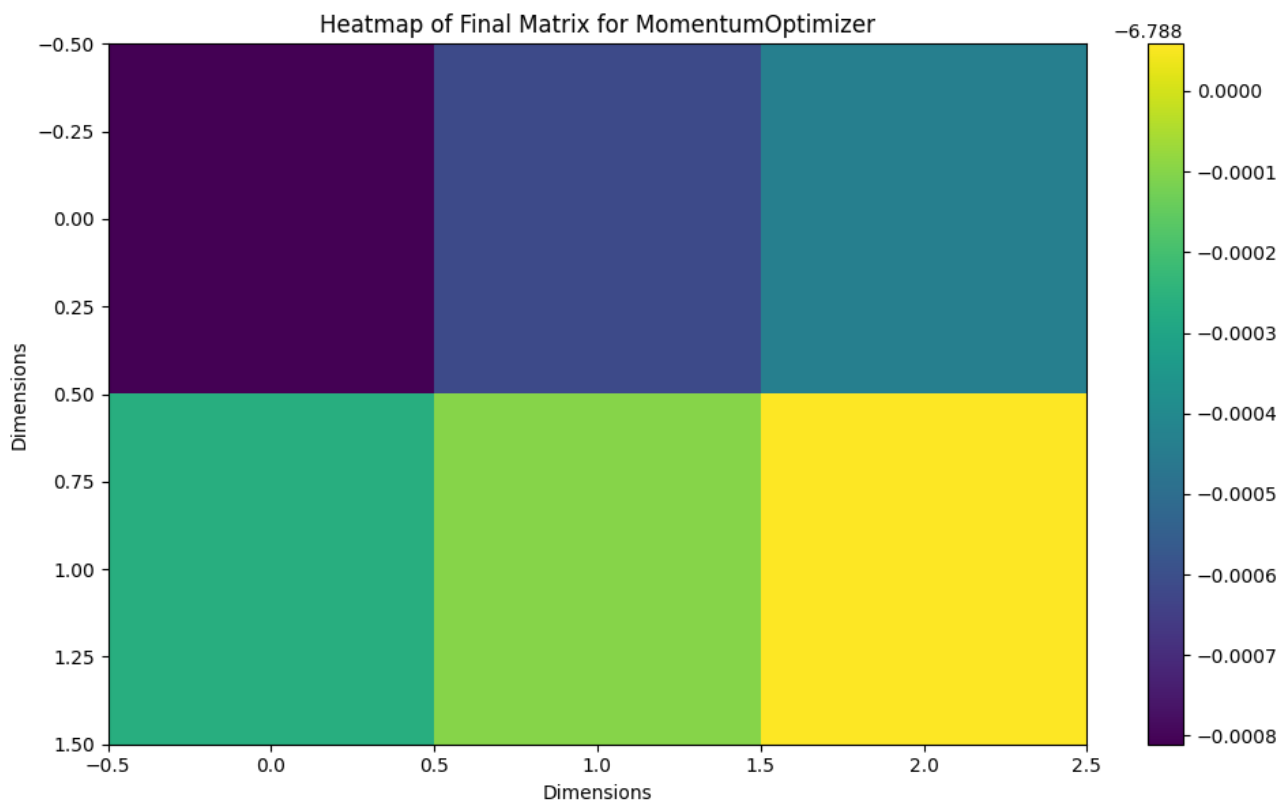
### **Threshold Drops:**

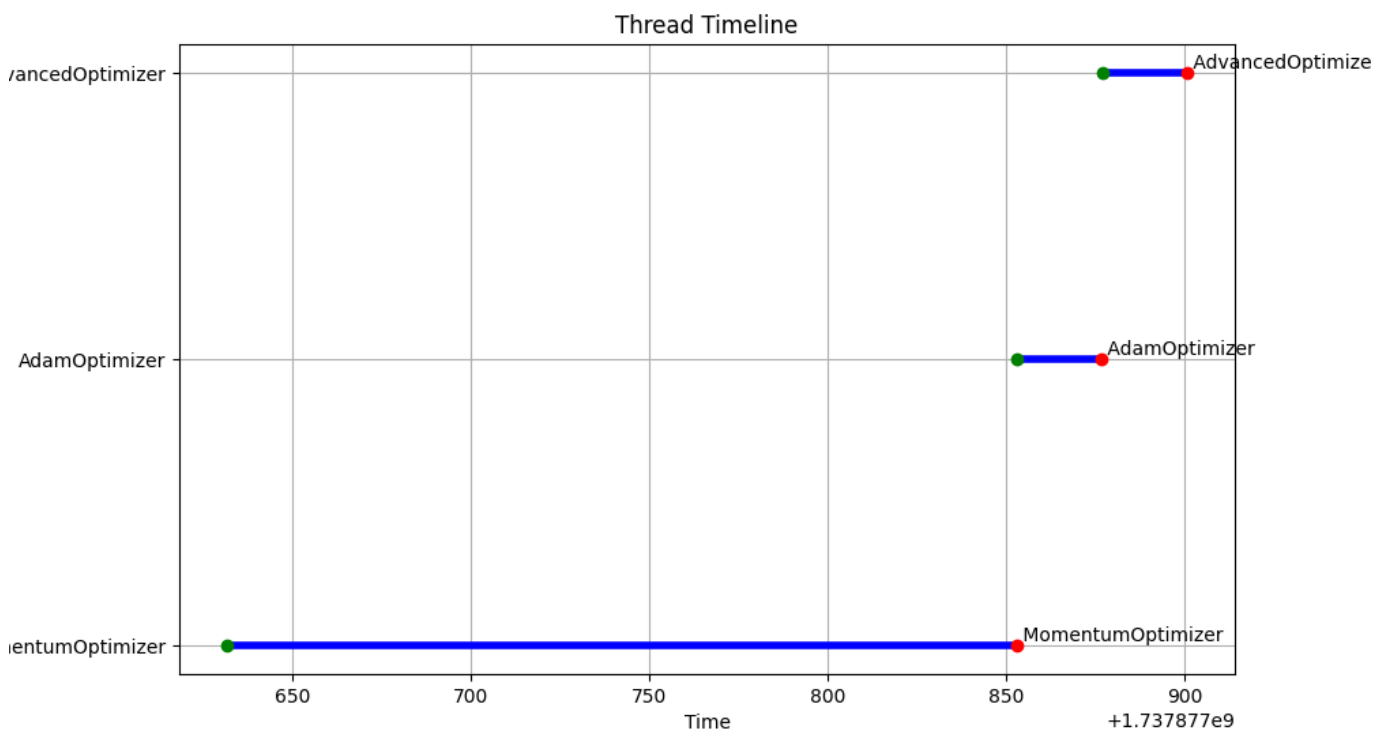
MomentumOptimizer: Probabilities dropped below 90% at iterations [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18]

AdamOptimizer: Probabilities dropped below 90% at iterations [1, 3]

AdvancedOptimizer: Probabilities dropped below 90% at iterations [1, 3]

### **Stability Regions:**





# Summary

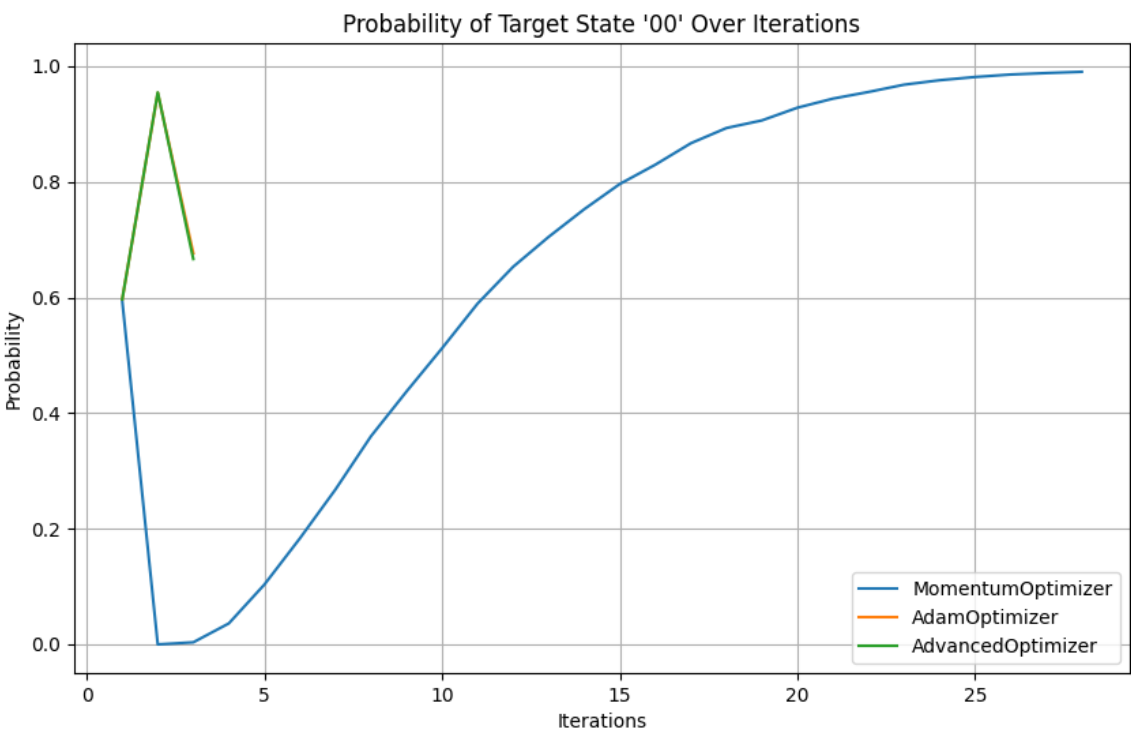
This report summarizes the training performance of various optimizers, including their final probabilities, loss values, convergence speeds, and resource utilizations.

## Key Metrics:

Optimizer	Final Probability	Iterations to 90%	Iterations to 99%	CPU Usage (%)
MomentumOptimizer	0.987	19	28	123.30
AdamOptimizer	0.665	2	N/A	122.40
AdvancedOptimizer	0.678	2	N/A	122.60

## Best Optimizer Snapshot:

The best optimizer is MomentumOptimizer with a final probability of 0.987.



## Legends and Descriptions:

All charts include detailed captions and legends for better interpretability.