Uncertainty Metrics Analysis Report
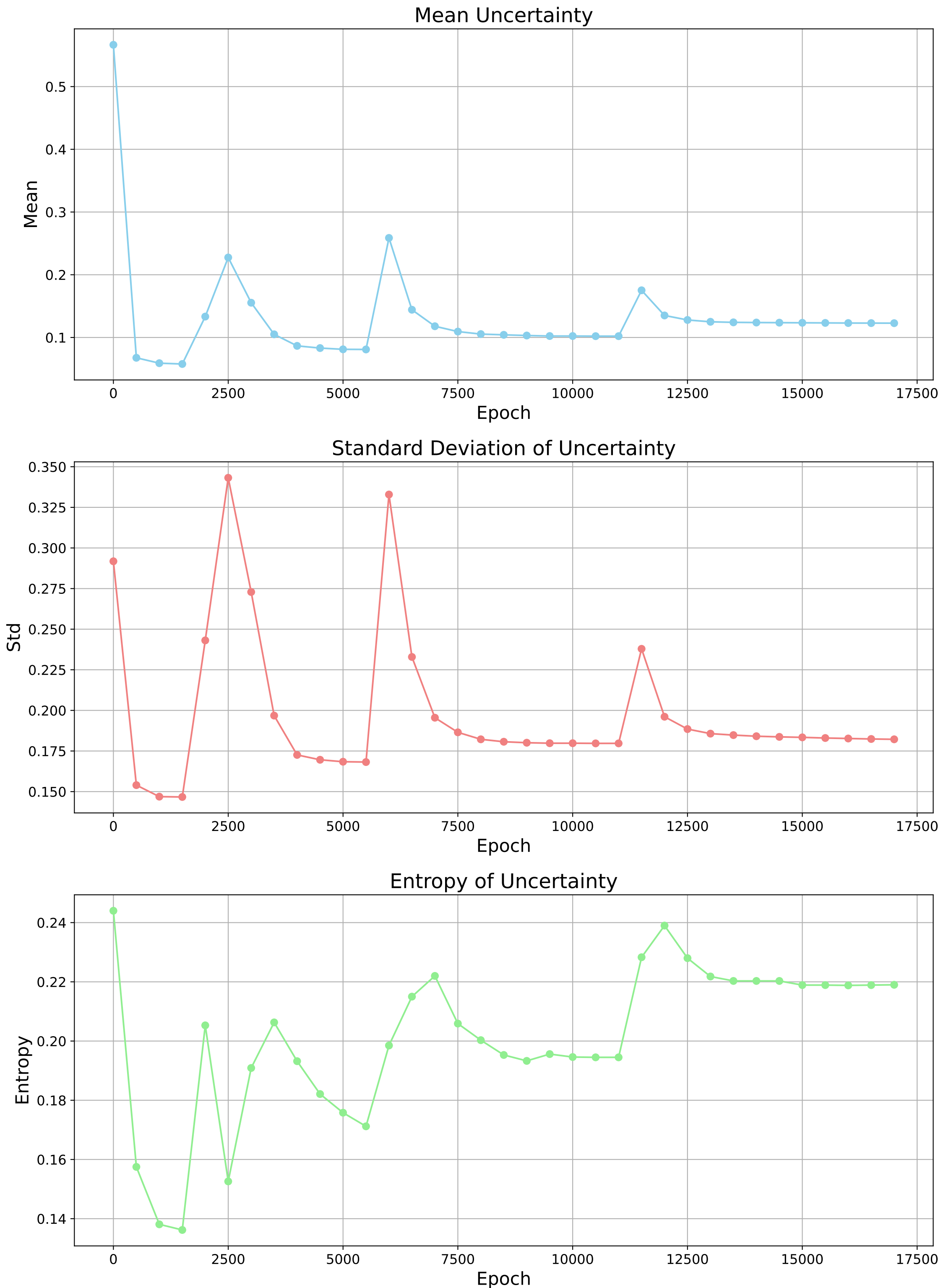
Date: 2025-07-21 19:21
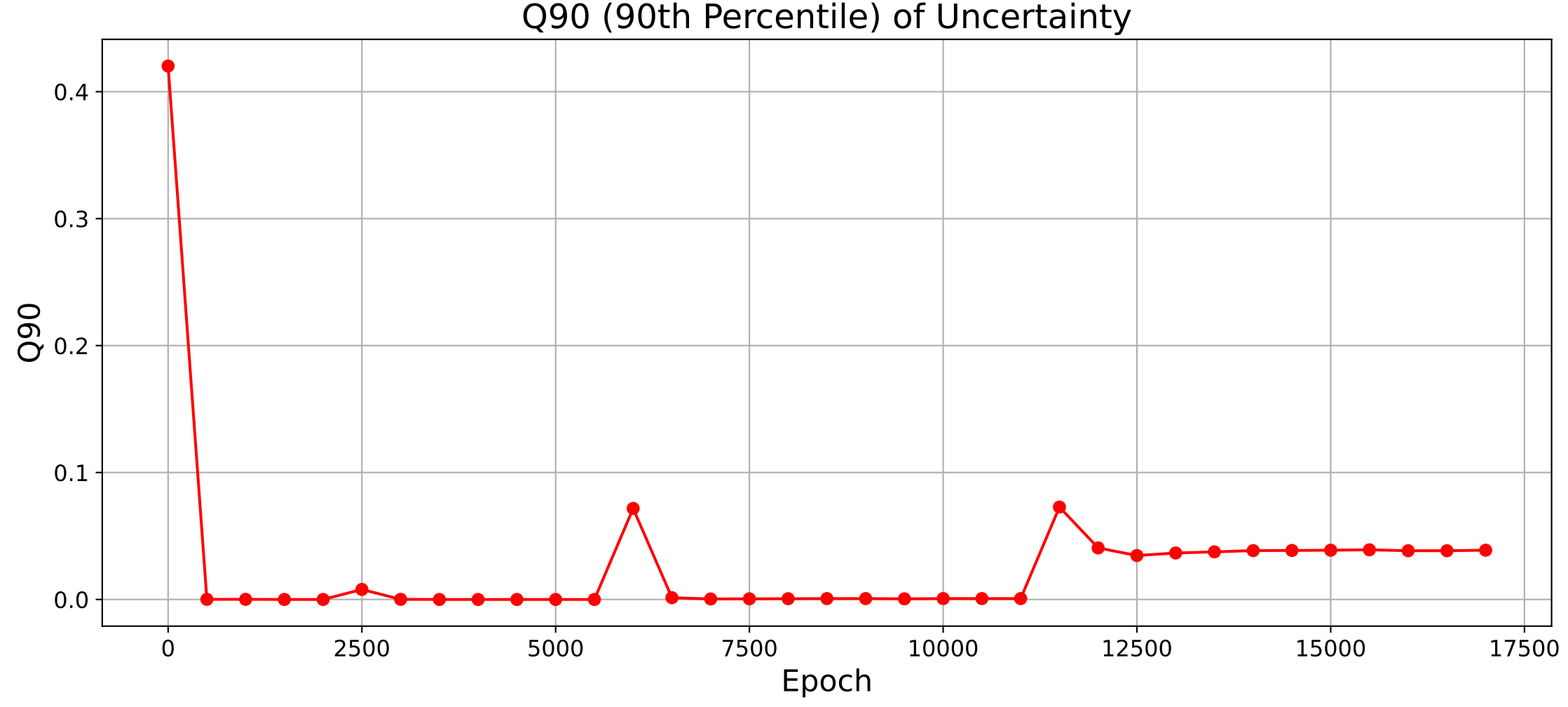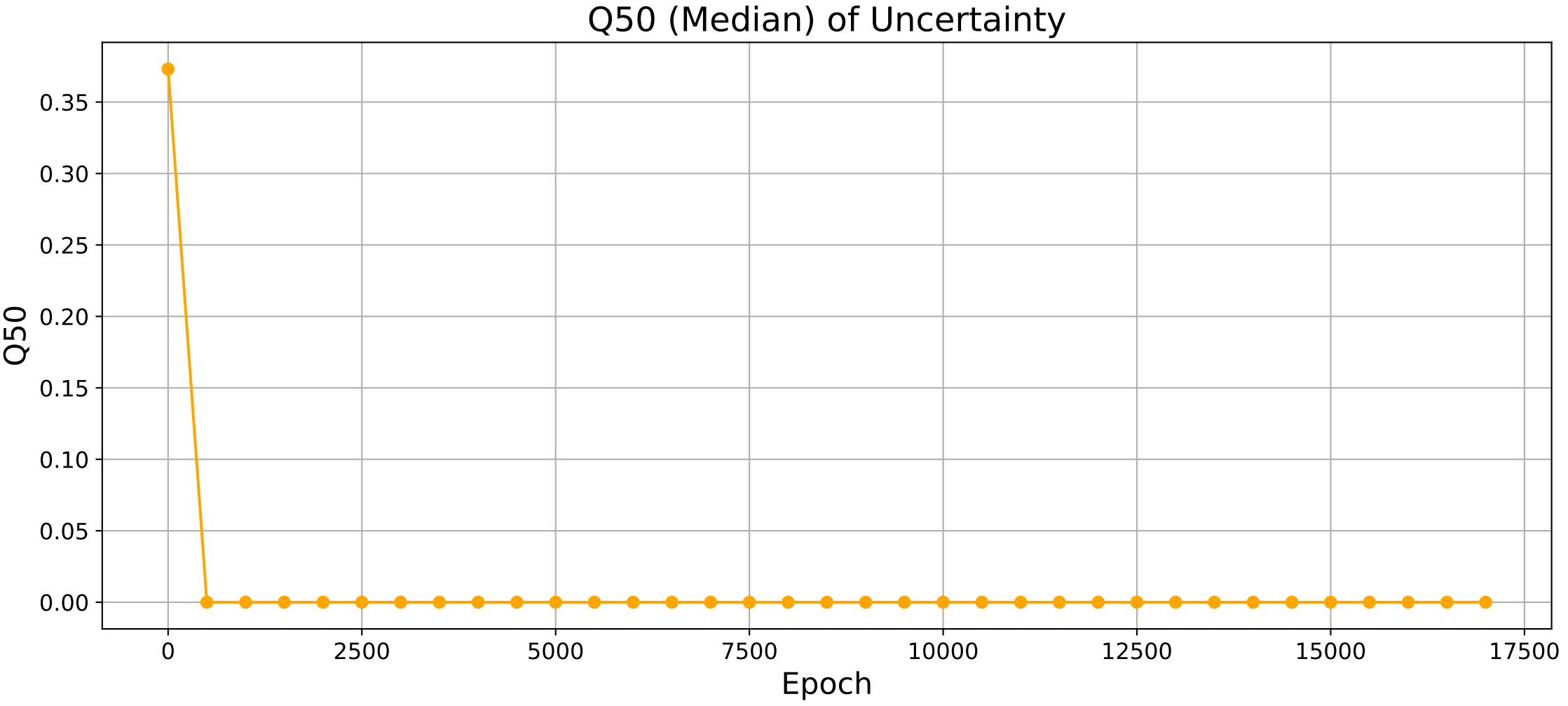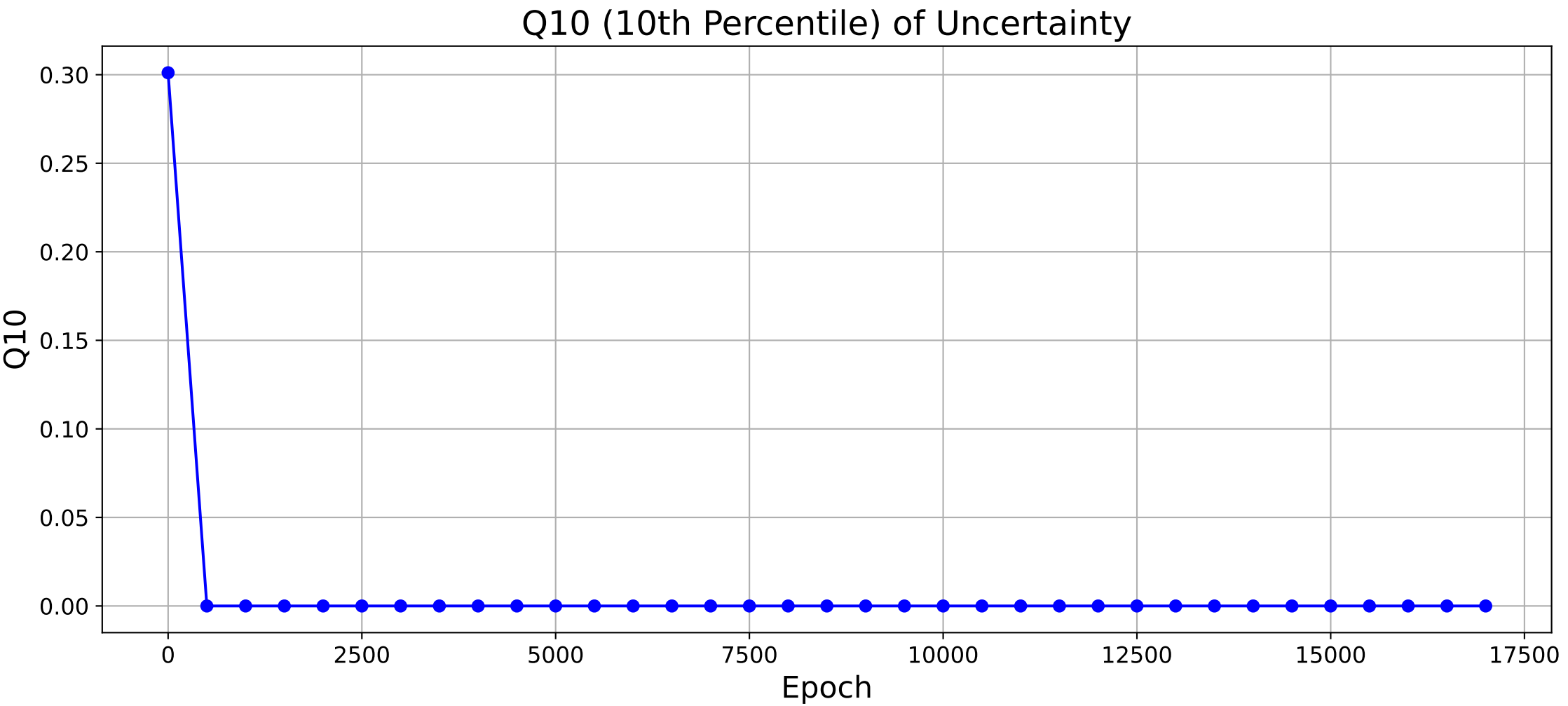
Contents:

Uncertainty Metrics Over Training Epochs

Mean Uncertainty

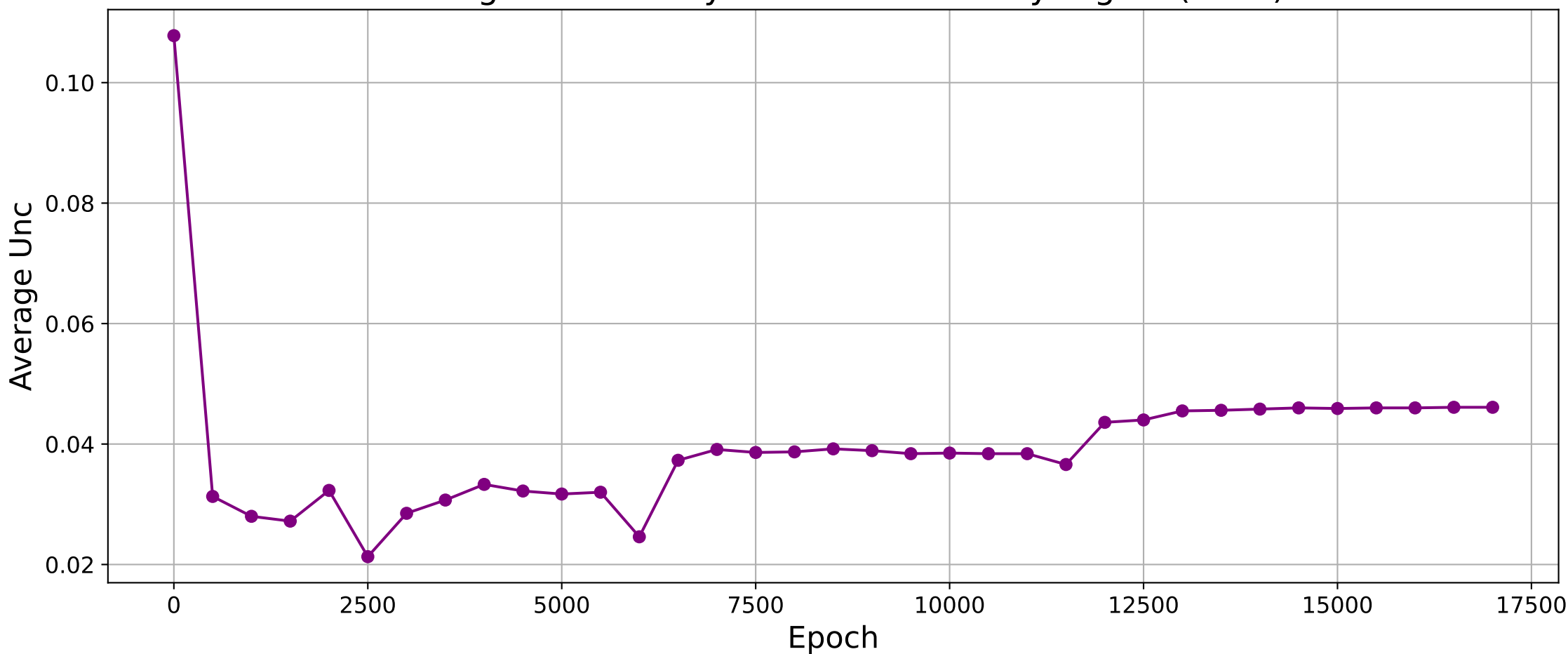Standard Deviation of Uncertainty

Entropy of Uncertainty

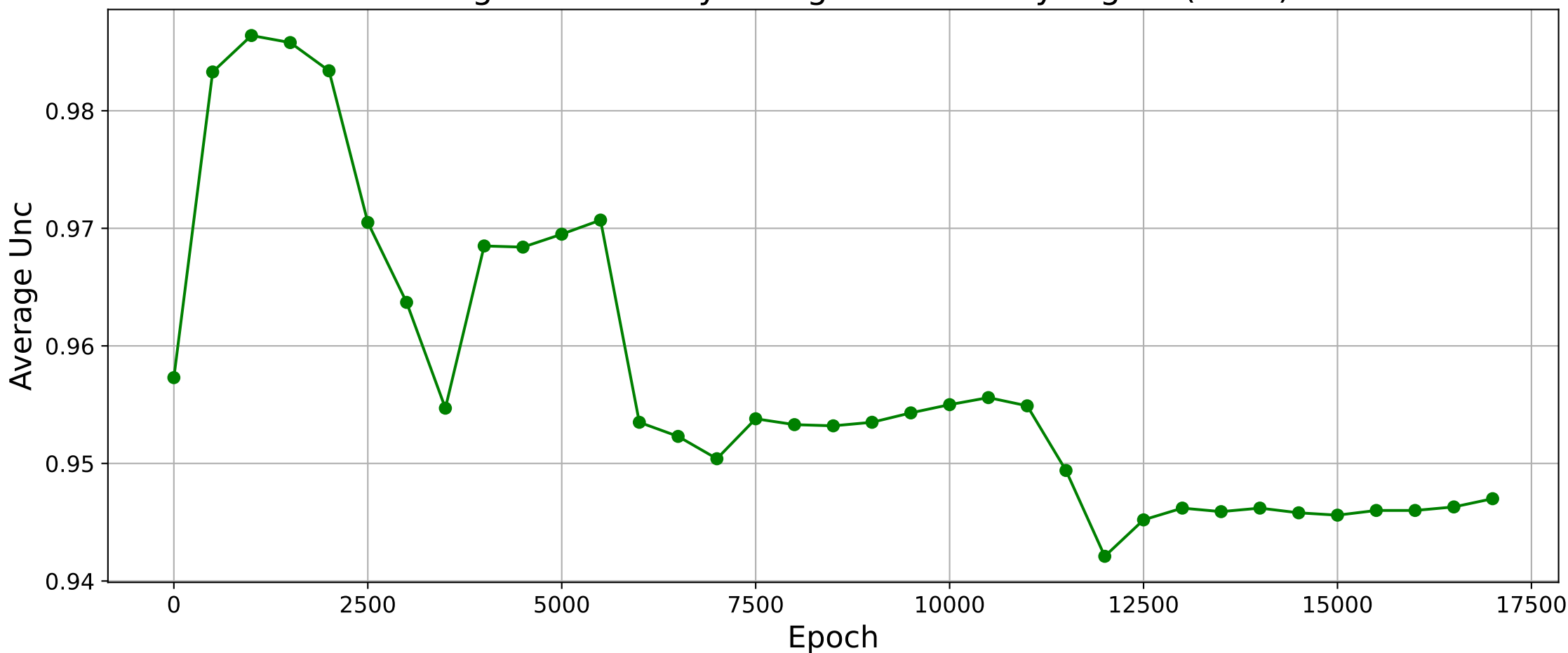Uncertainty Quantiles Over Training Epochs

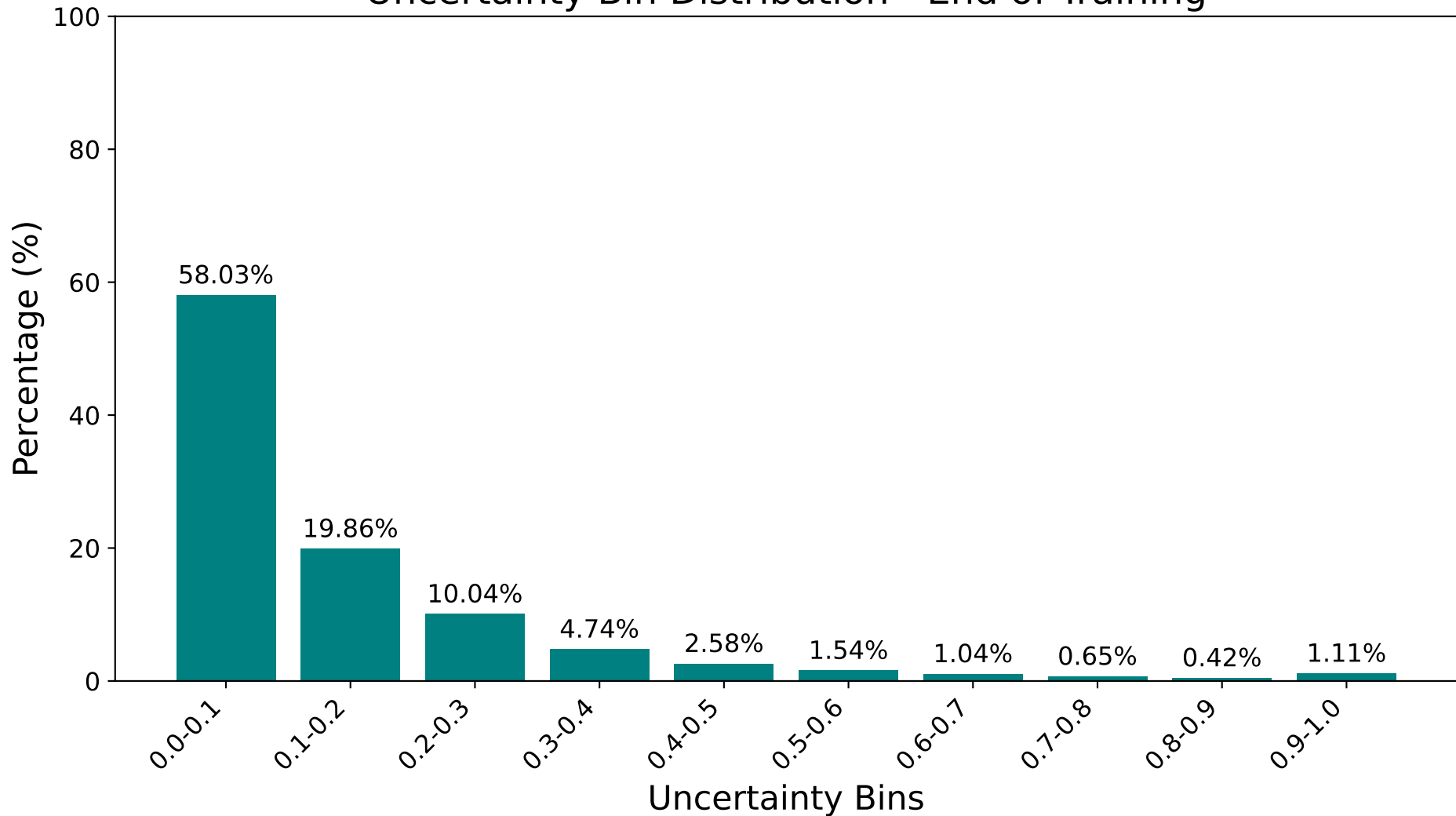Uncertainty Region Proportions Over Training Epochs
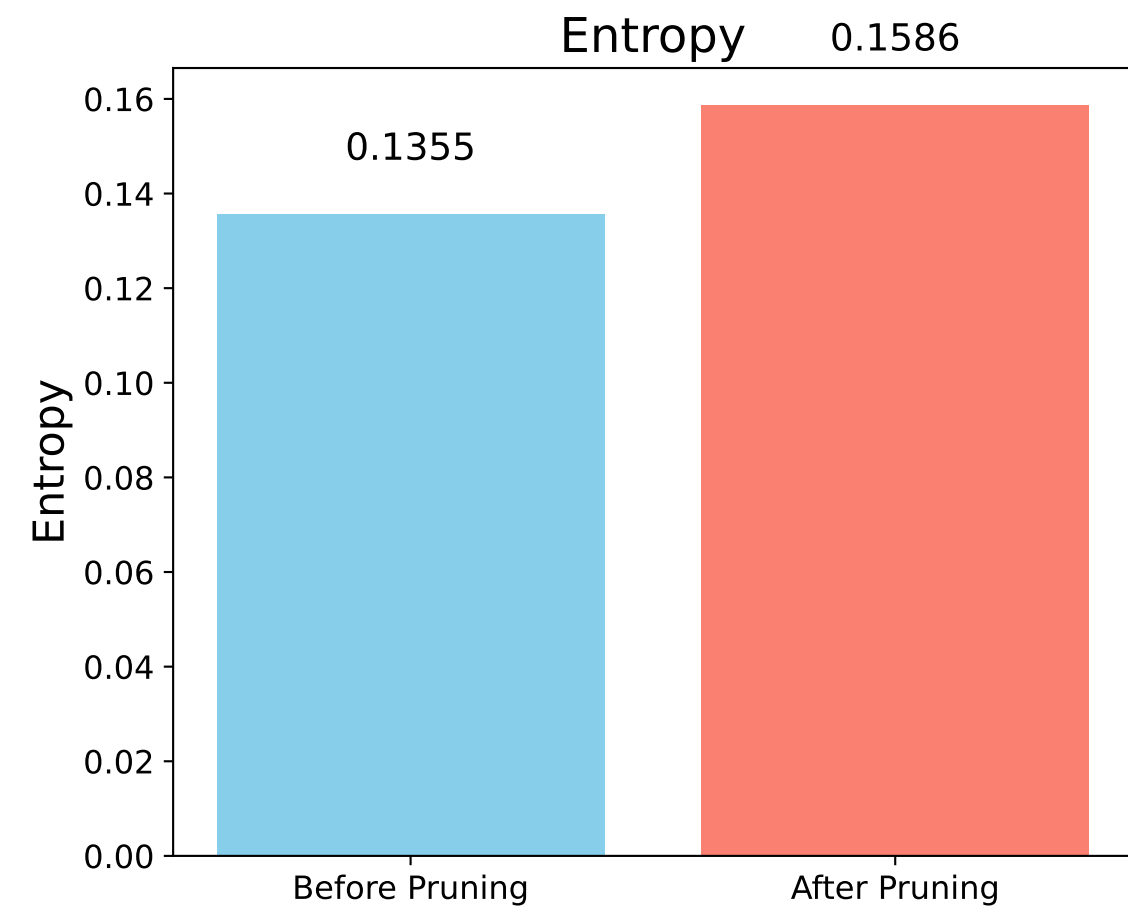
Average uncertainty of Low-uncertainty region (<0.2)

Average uncertainty of High-uncertainty region (>0.8)
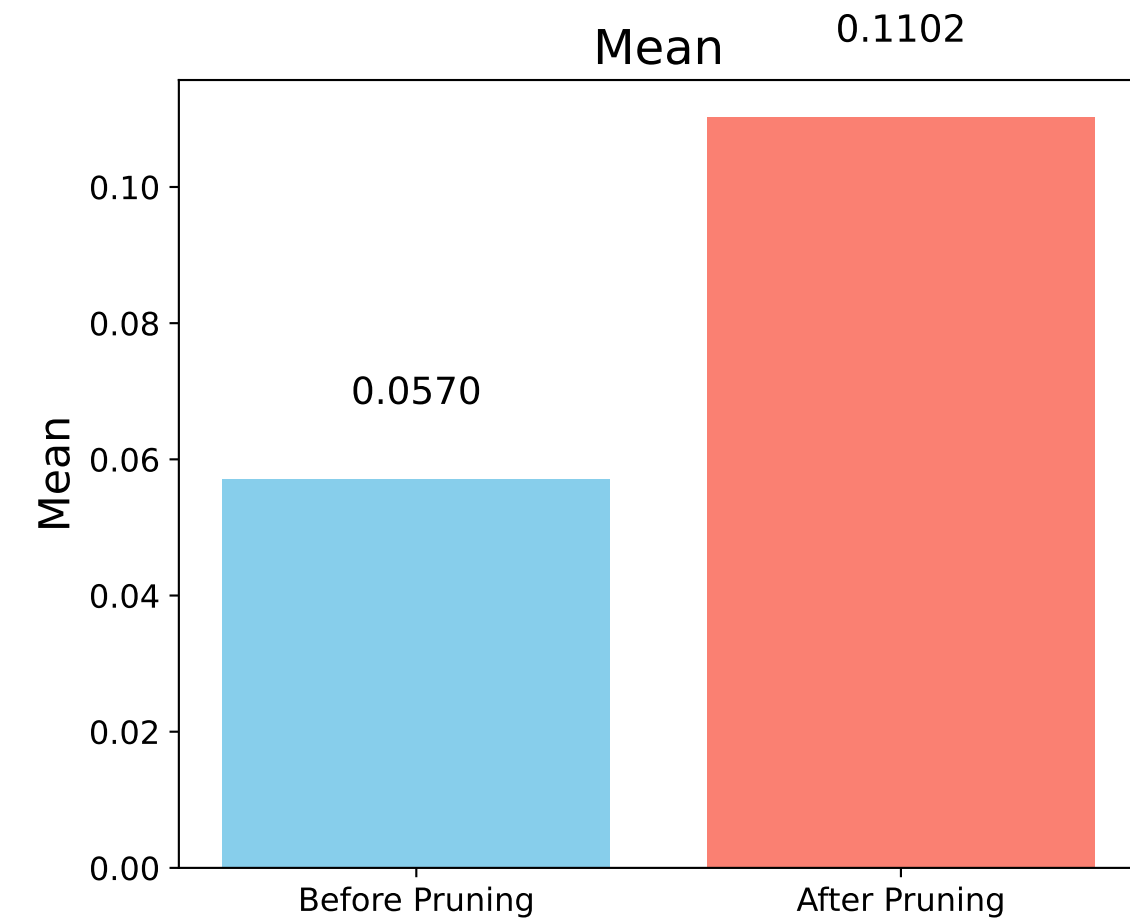
Uncertainty Bin Distribution - End of Training

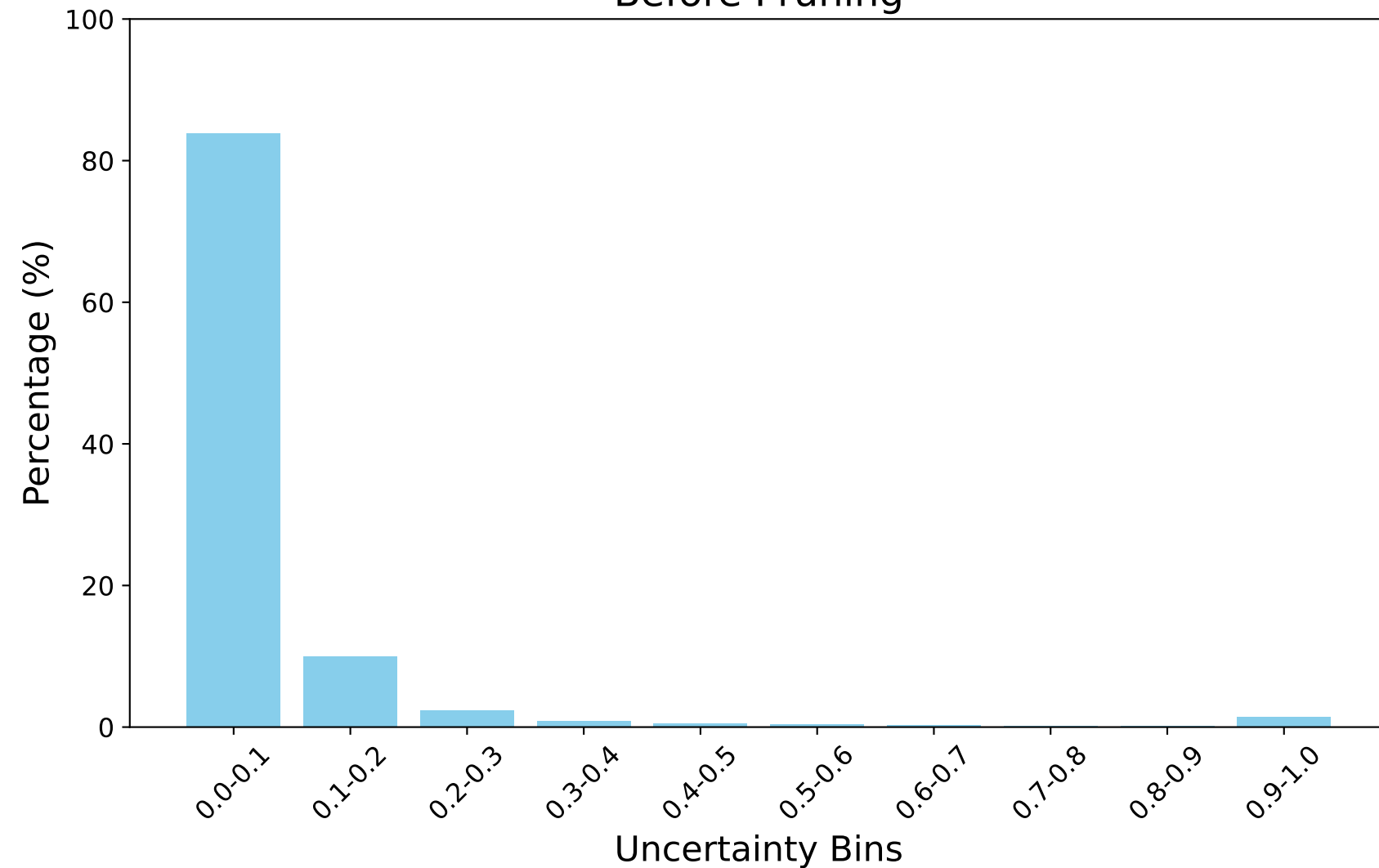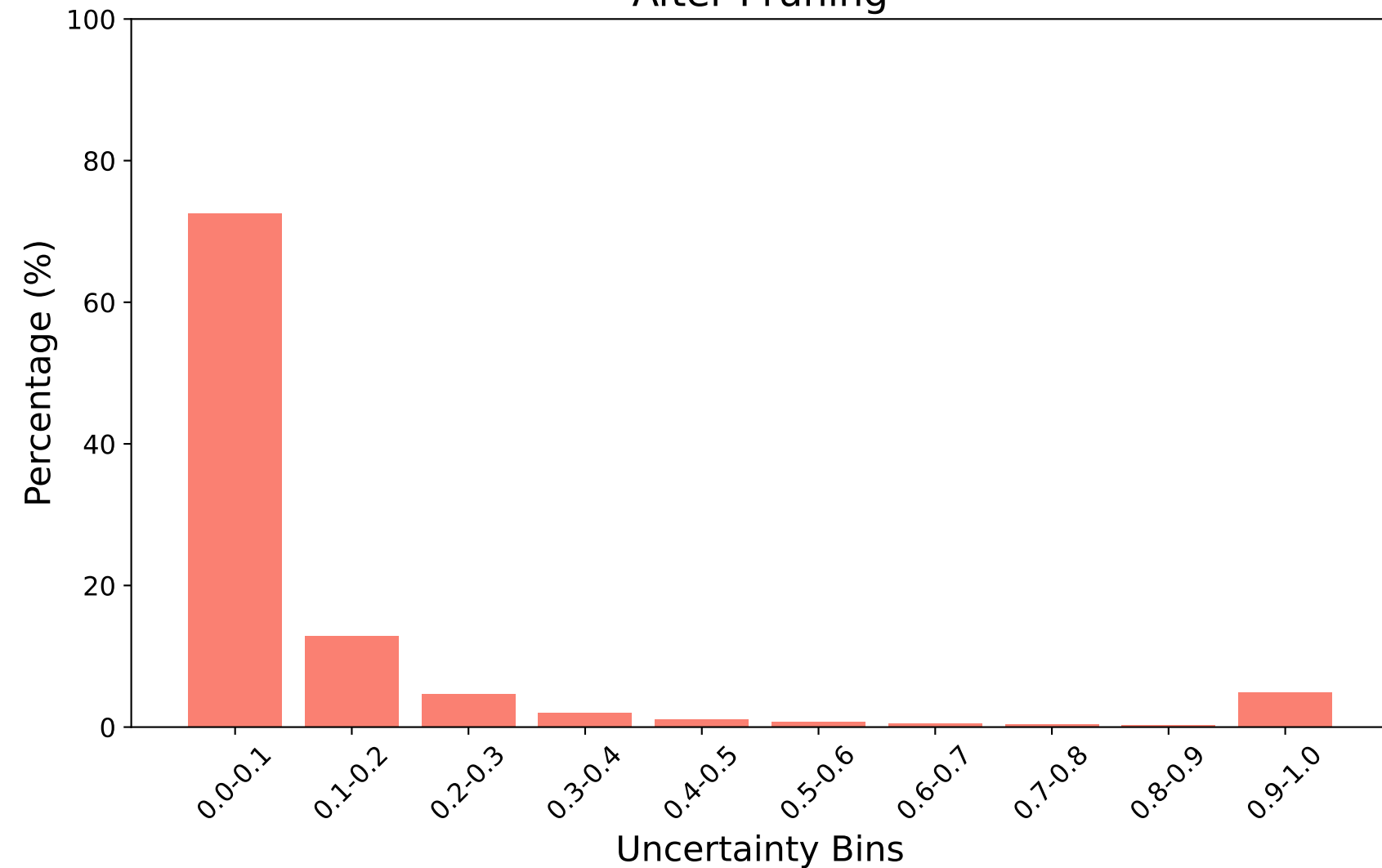| Uncertainty Bins	Percentage (%)
0.0-0.1	58.03%
0.1-0.2	19.86%
0.2-0.3	10.04%
0.3-0.4	4.74%
0.4-0.5	2.58%
0.5-0.6	1.54%
0.6-0.7	1.04%
0.7-0.8	0.65%
0.8-0.9	0.42%
0.9-1.0	1.11%
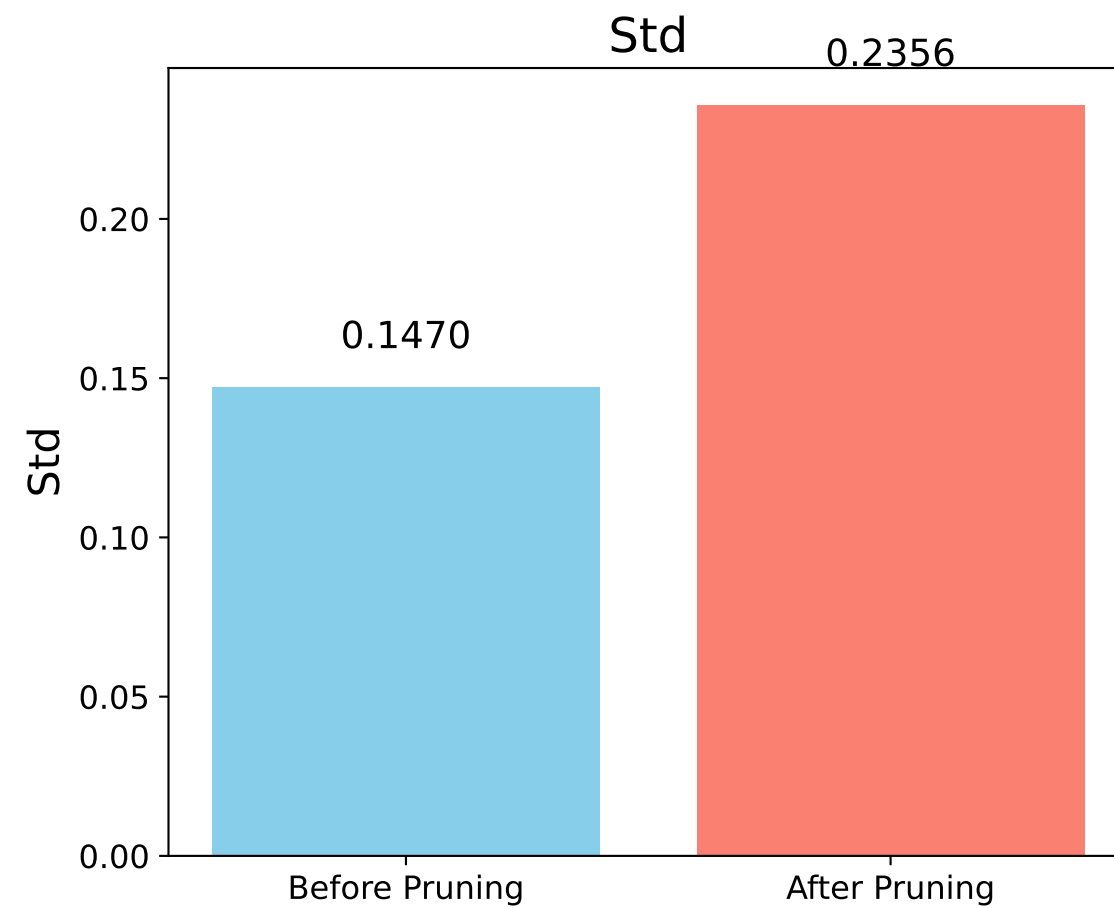
Metrics Before vs. After Pruning (Iteration 1999.0)

Uncertainty Bin Distribution Before vs. After Pruning (Iteration 1999.0)

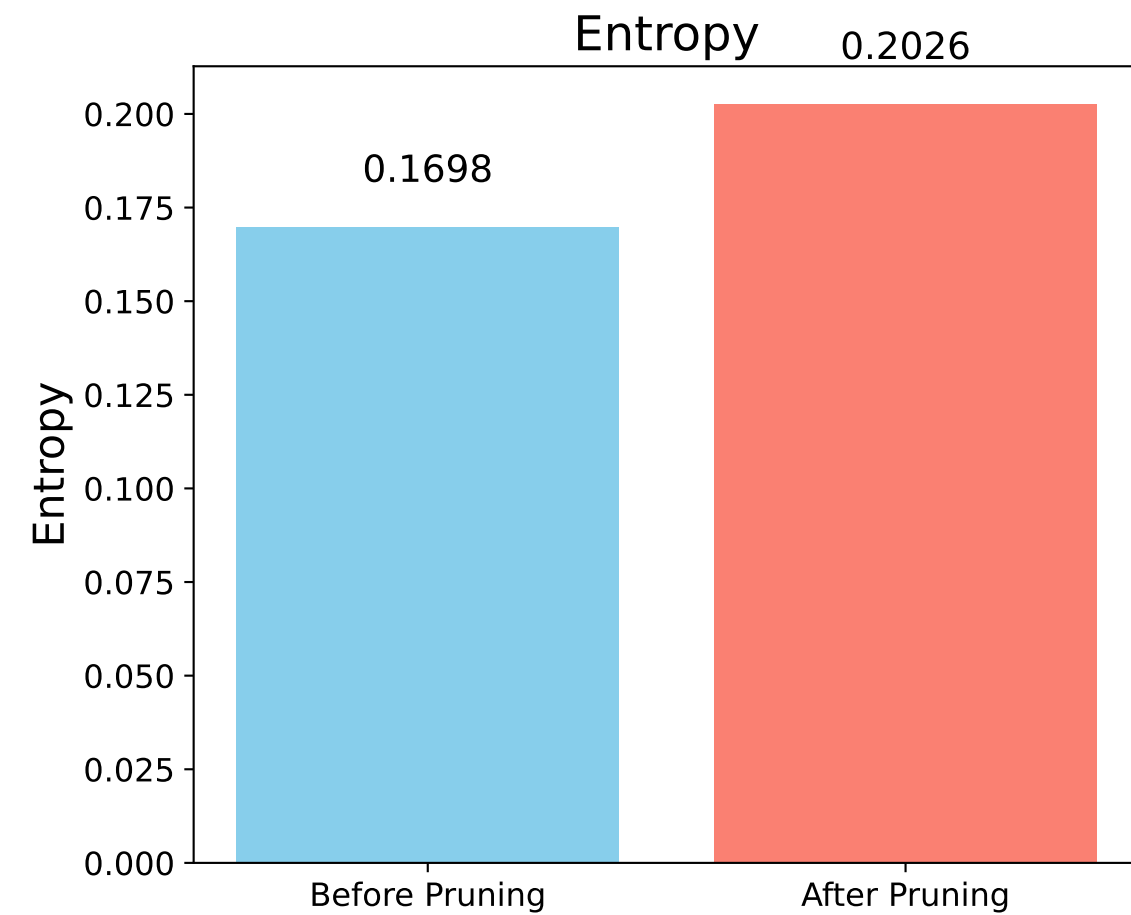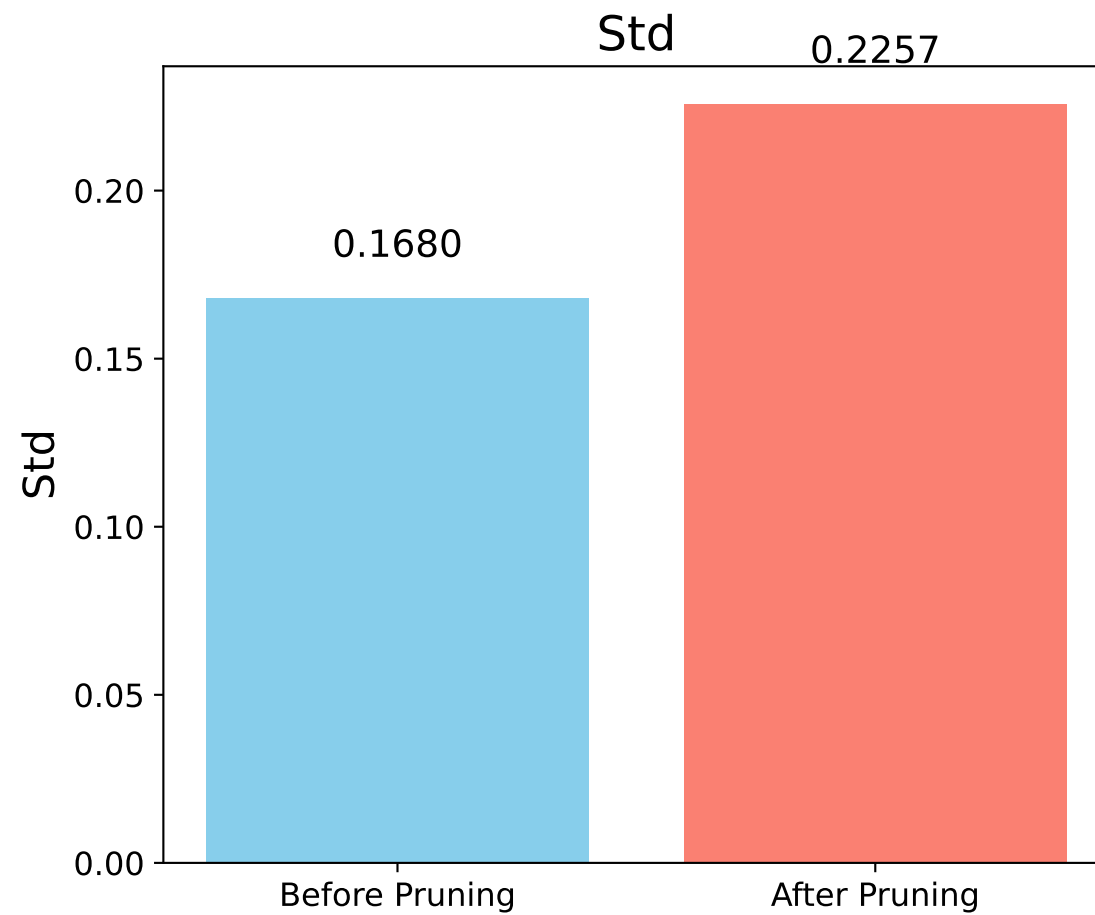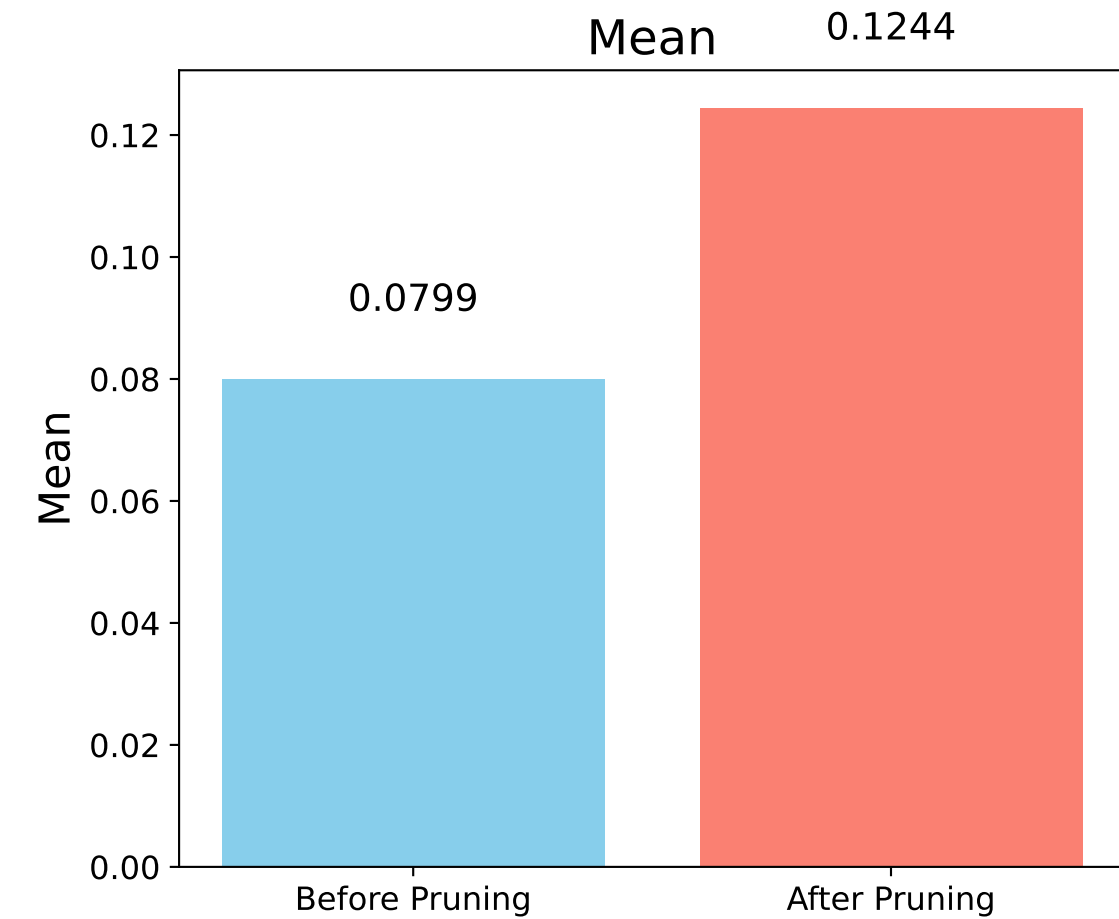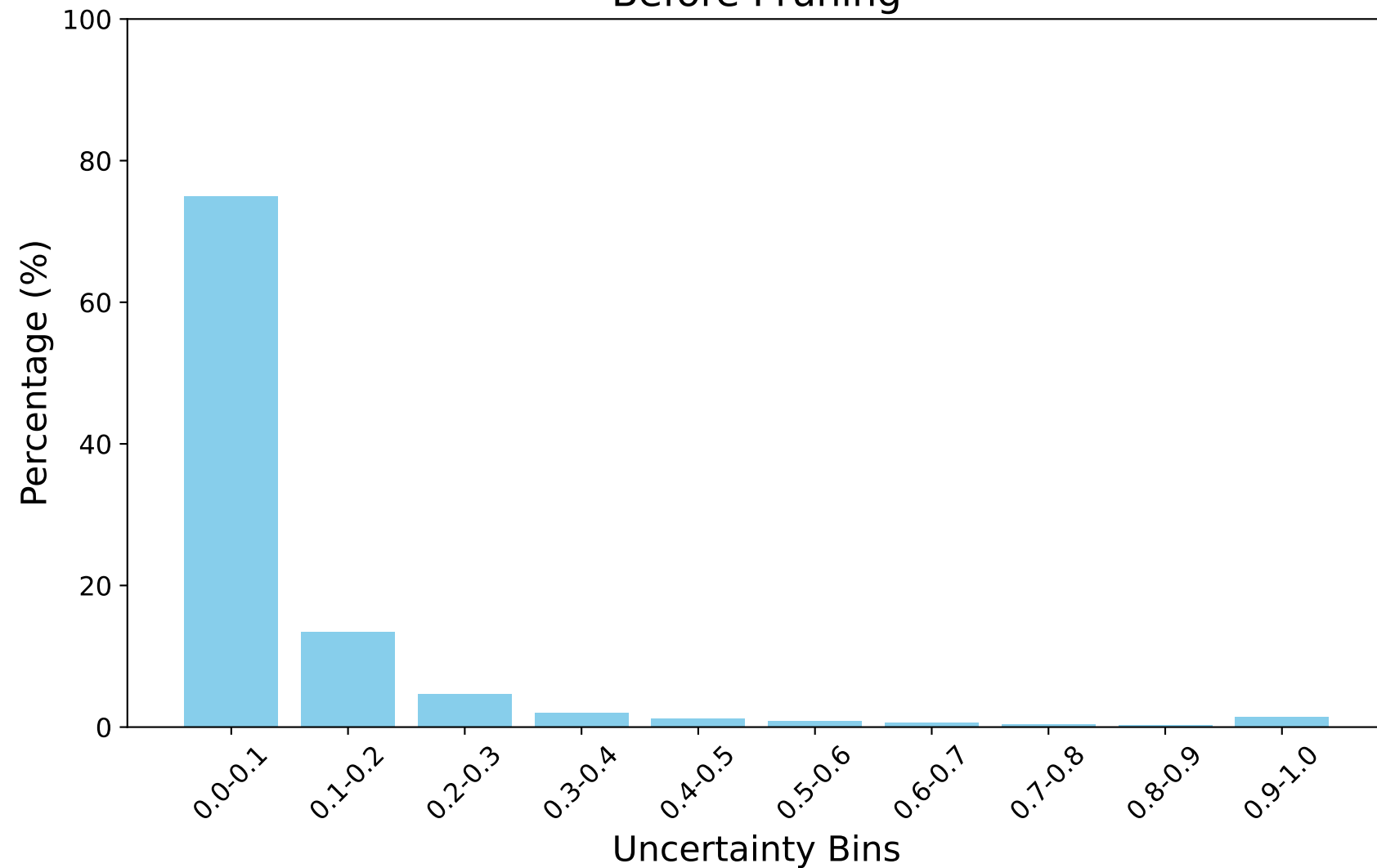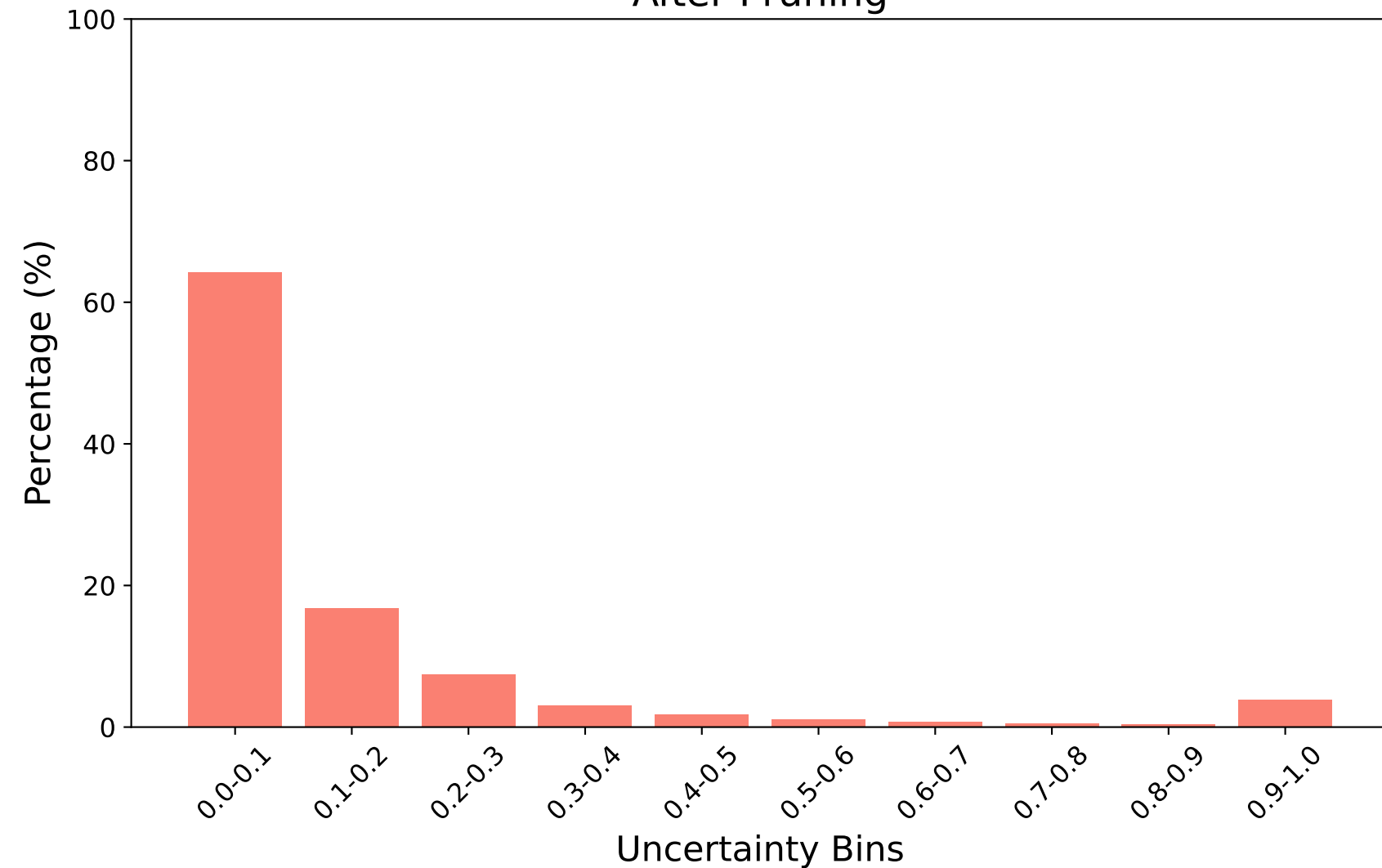Metrics Before vs. After Pruning (Iteration 5840.0)

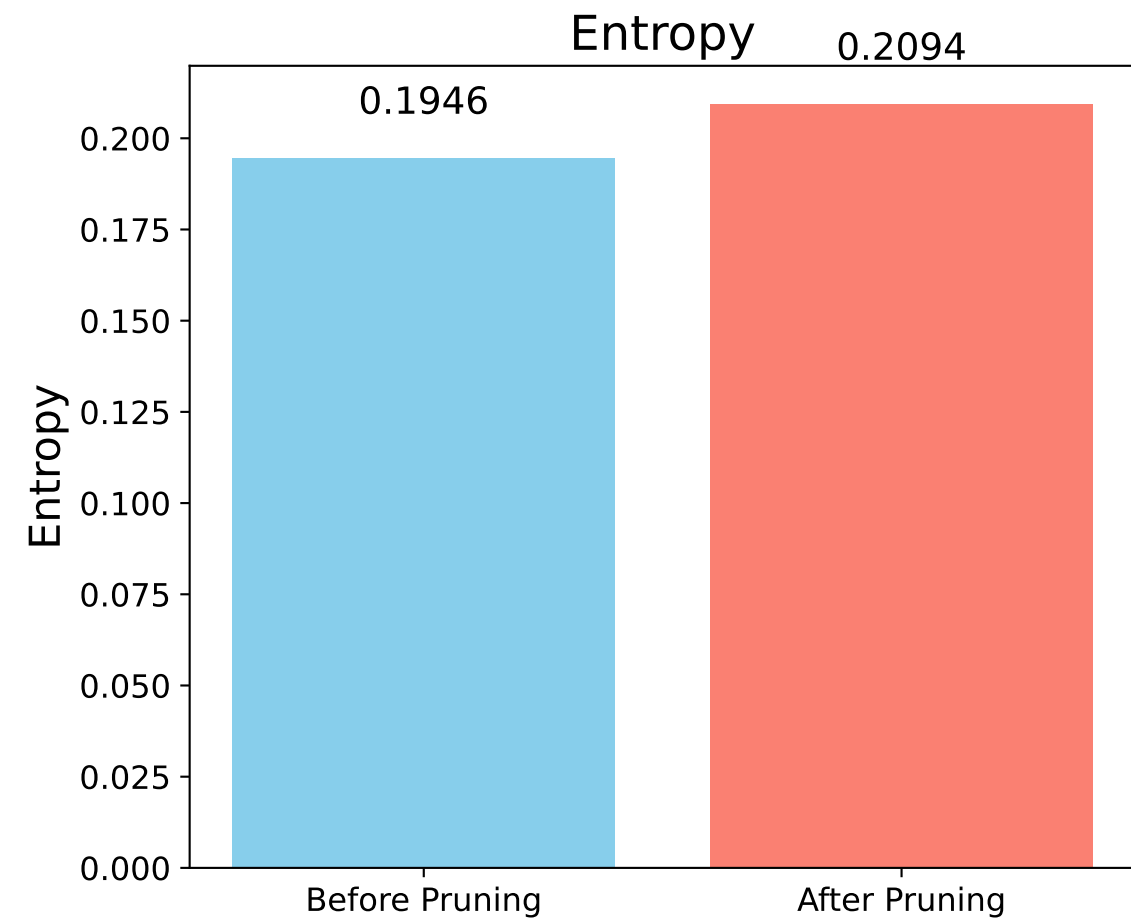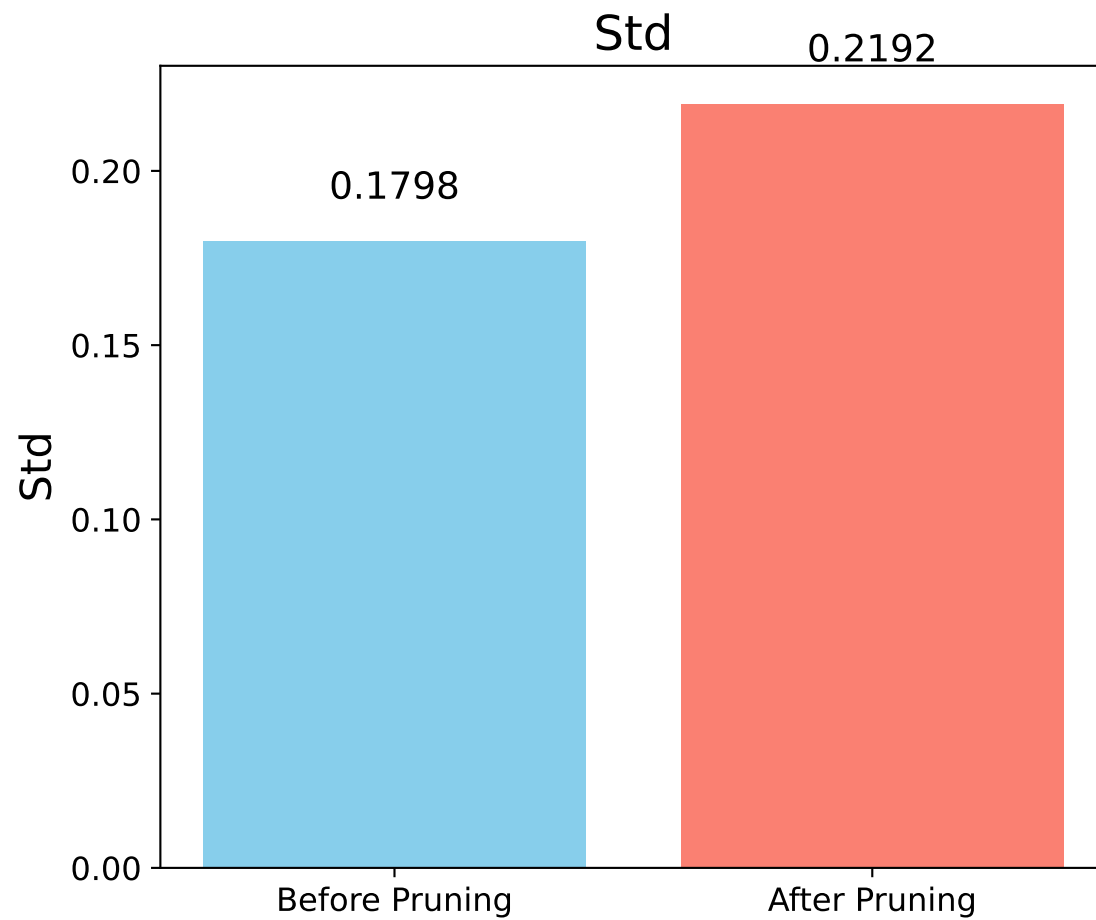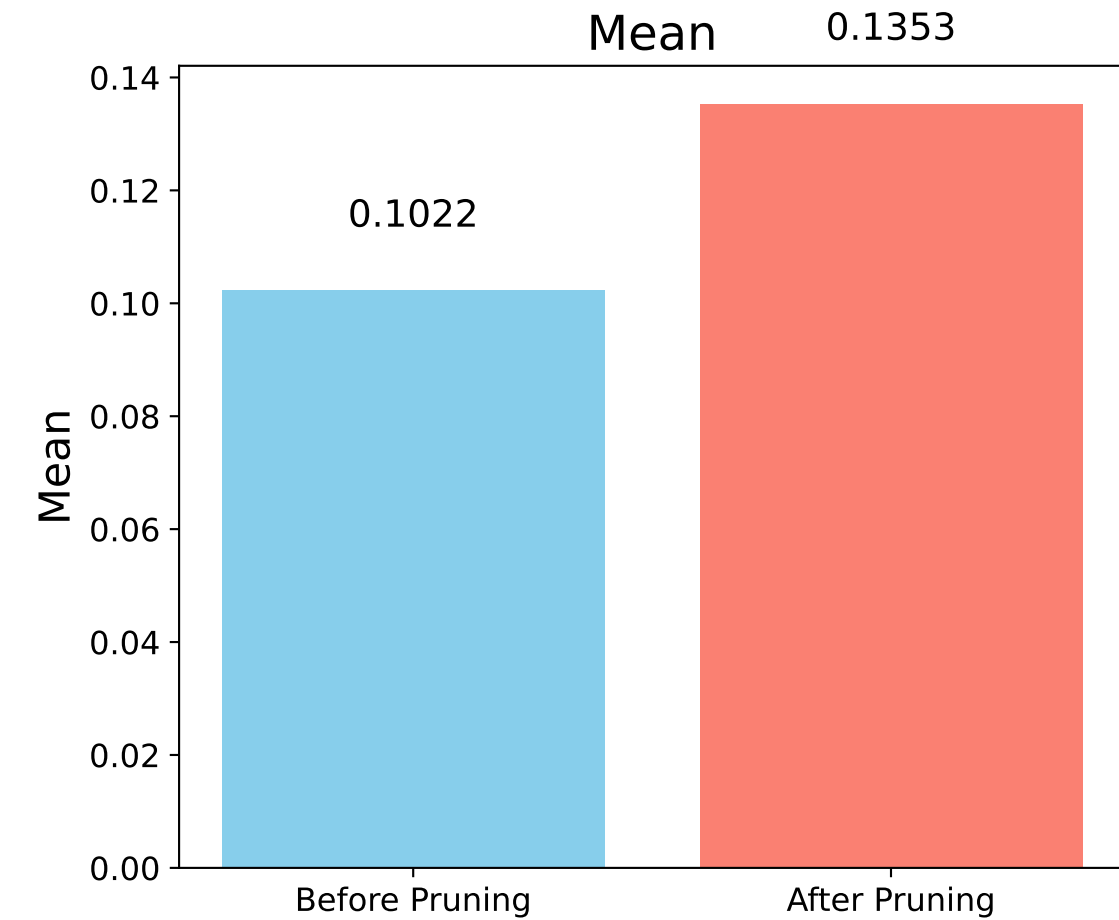Uncertainty Bin Distribution Before vs. After Pruning (Iteration 5840.0)

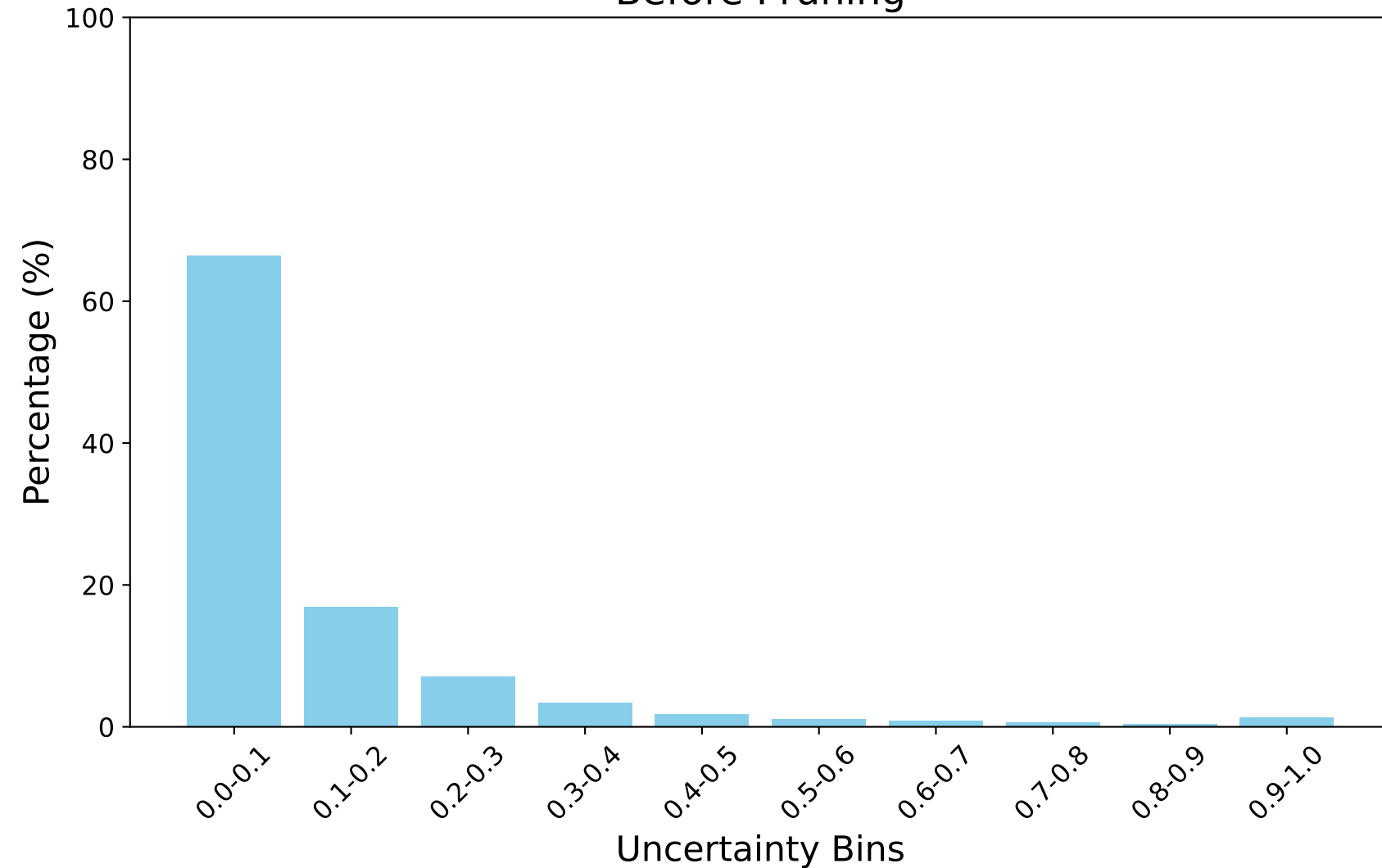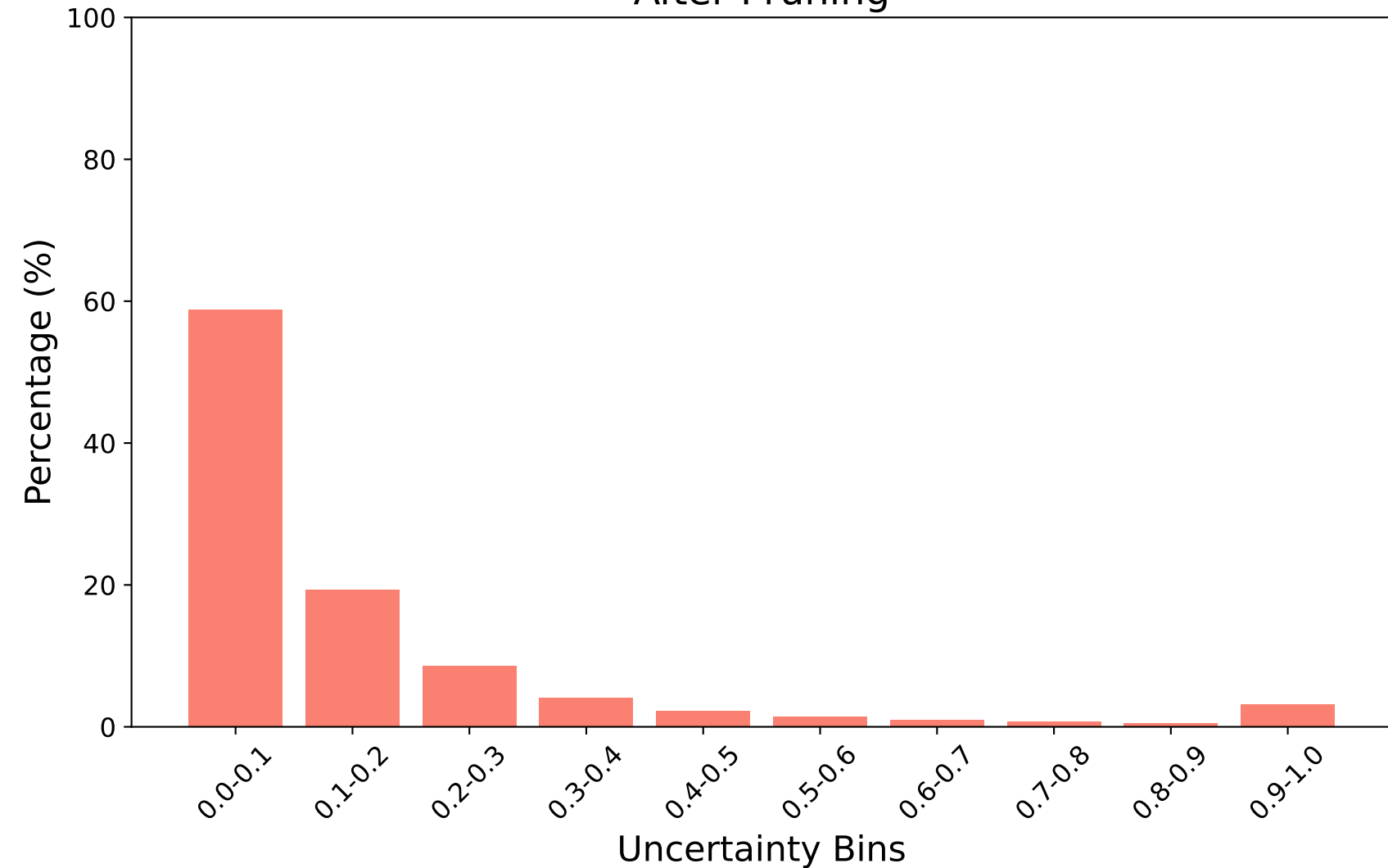Metrics Before vs. After Pruning (Iteration 11195.0)

Uncertainty Bin Distribution Before vs. After Pruning (Iteration 11195.0)

Average Pruning Effects Summary

Based on 3 pruning iterations

Mean: 0.0436

Std: 0.0619

Entropy: 0.0236
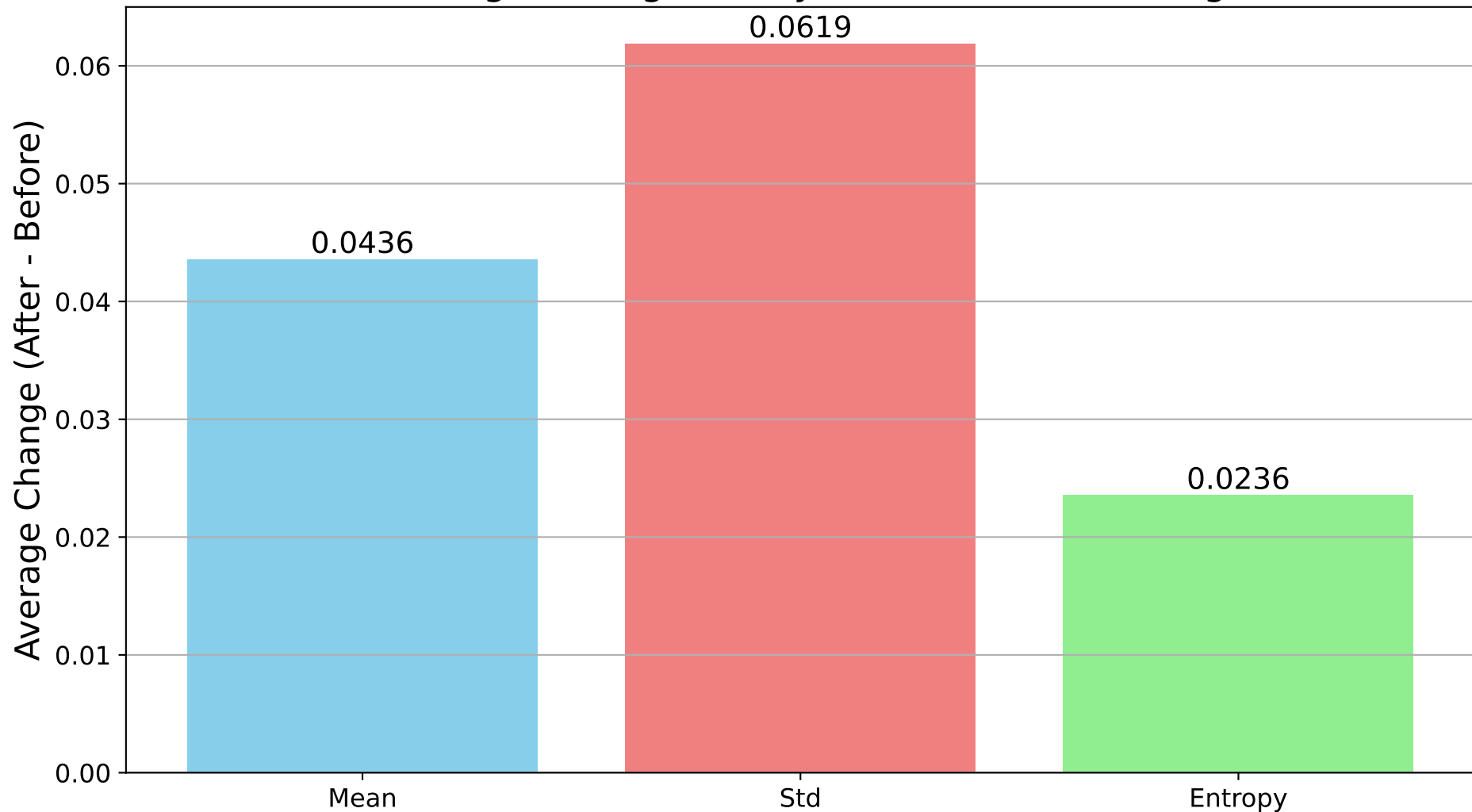
Q10: 0.0000

Q50: 0.0000

Q90: 0.0091
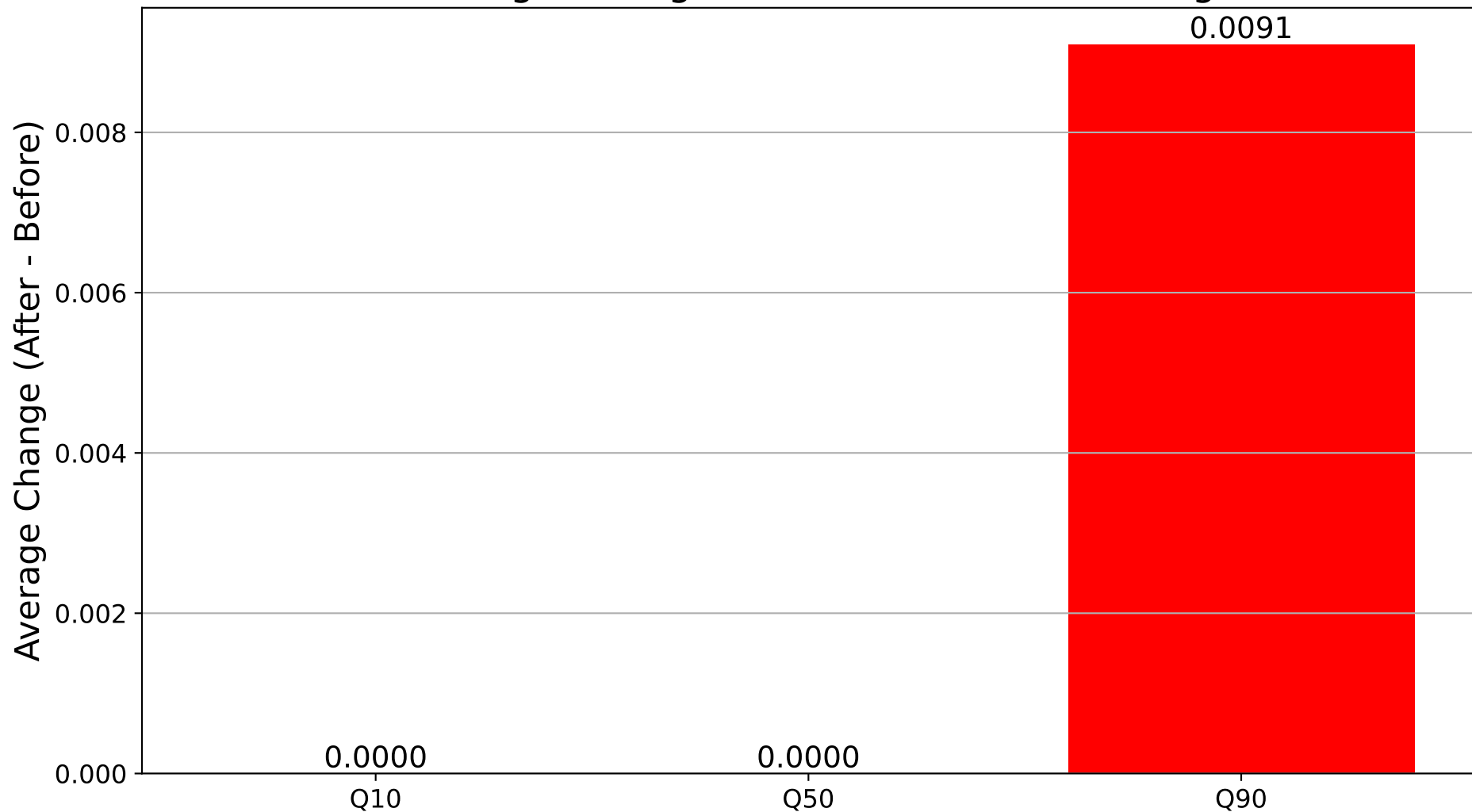
Low-uncertainty region (<0.2): 0.0055
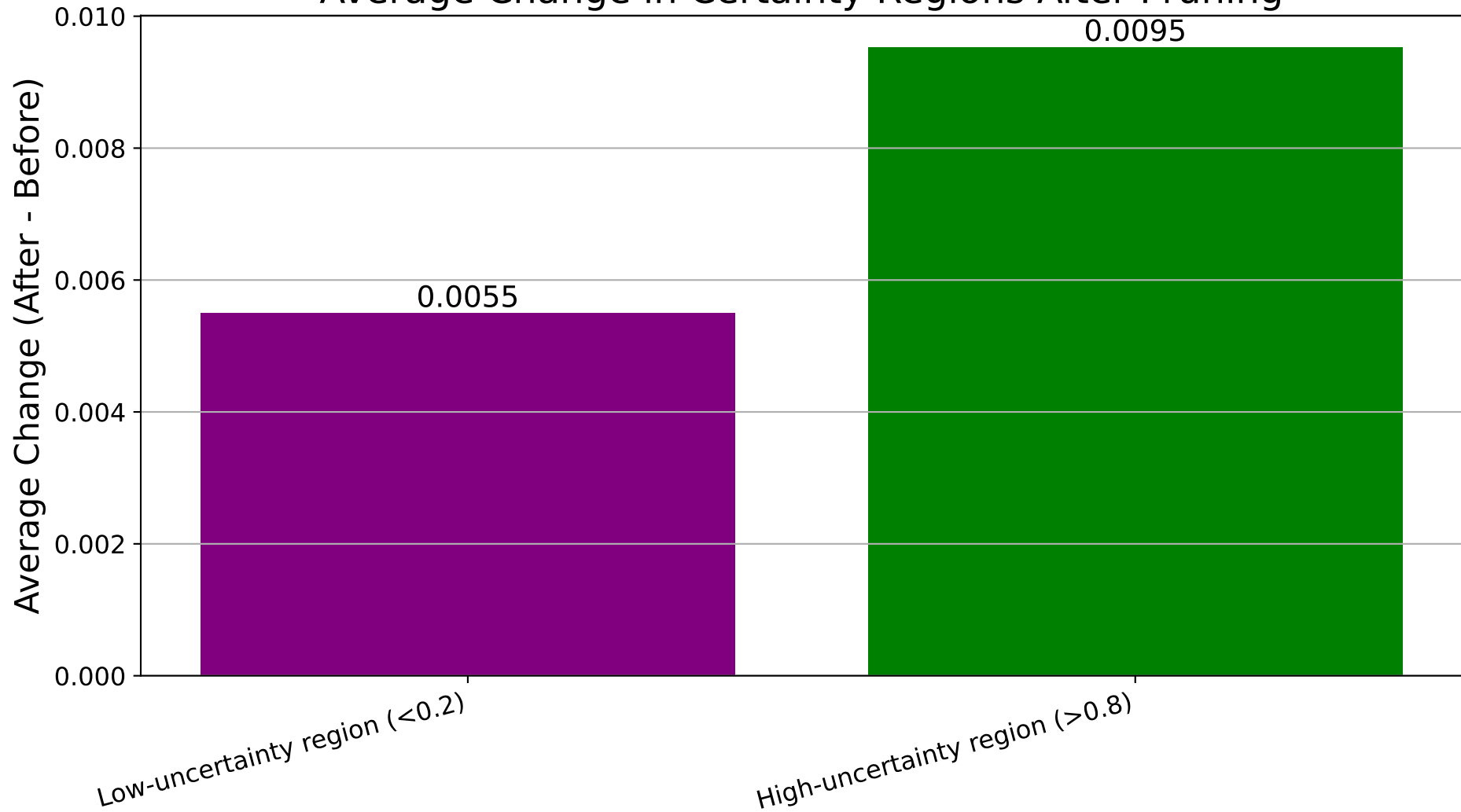
High-uncertainty region (>0.8): 0.0095

Average Change in Key Metrics After Pruning
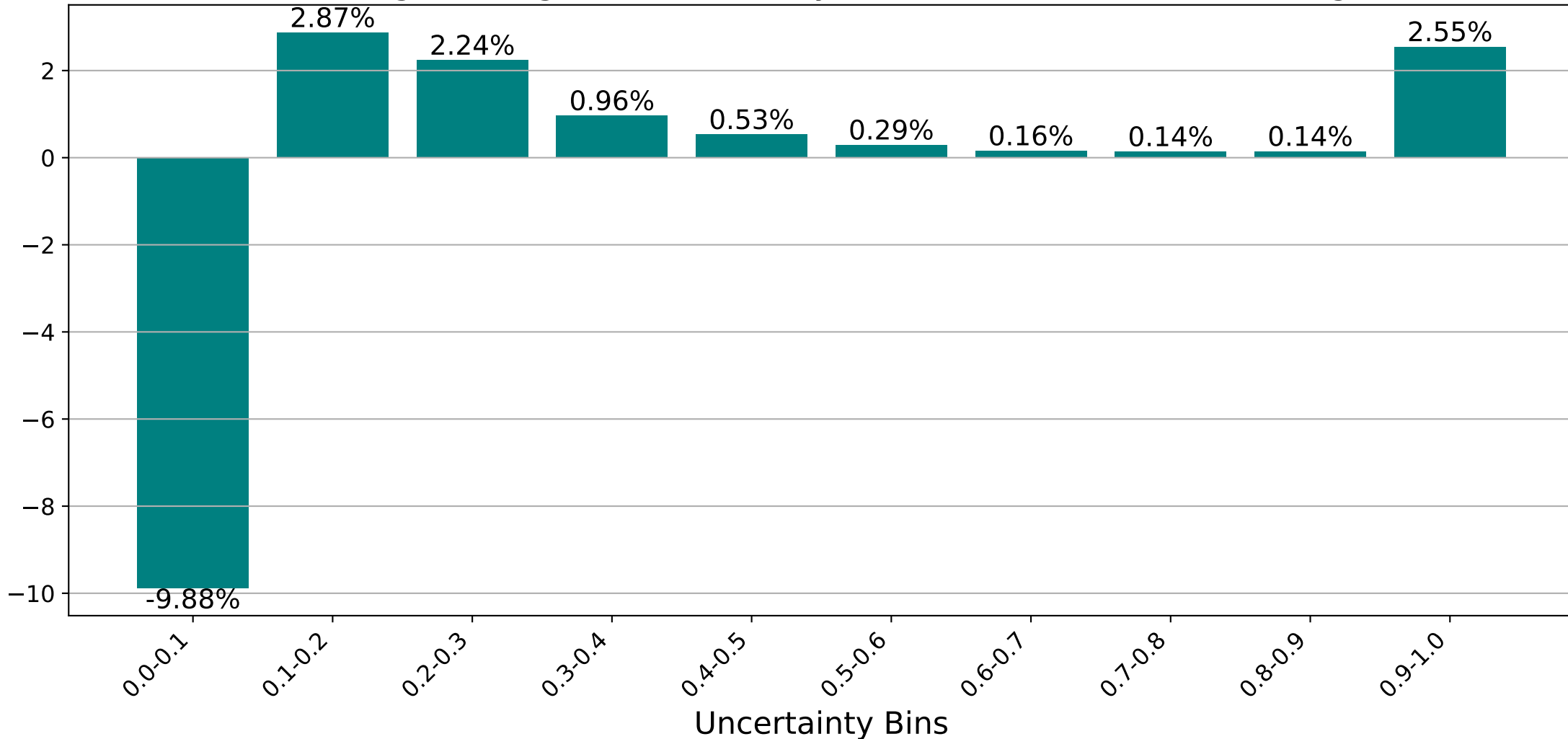
Average Change in Quantiles After Pruning

Average Change in Certainty Regions After Pruning

Average Change in Uncertainty Bin Distribution After Pruning

Final Training State Uncertainty Metrics

Active Points: 480961

Mean: 0.1227

Std: 0.1820

Entropy: 0.2182

Quantiles: Q10=0.0000, Q50=0.0000, Q90=0.0392

Low-uncertainty region (<0.2): 0.0462

High-uncertainty region (>0.8): 0.9469

Uncertainty Bin Distribution - End of Training