

Results for HardMax $t = 1000$ Needle In Haystack High

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.1 +/- 0.022 0.063 (0.056, 0.072) Extreme Shares: 87 %	0.13 +/- 0.026 0.086 (0.076, 0.097) Extreme Shares: 88 %	0.28 +/- 0.036 0.17 (0.15, 0.19) Extreme Shares: 84 %
Bayesian Epsilon Greedy	0.093 +/- 0.022 0.064 (0.056, 0.072) Extreme Shares: 91 %	0.18 +/- 0.031 0.12 (0.11, 0.14) Extreme Shares: 89 %	0.26 +/- 0.035 0.16 (0.14, 0.18) Extreme Shares: 86 %
Bayesian Greedy	0.11 +/- 0.024 0.072 (0.064, 0.081) Extreme Shares: 87 %	0.18 +/- 0.03 0.12 (0.1, 0.13) Extreme Shares: 88 %	0.23 +/- 0.033 0.14 (0.13, 0.16) Extreme Shares: 85 %

Results for HardMaxWithRandom $t = 1000$ Needle In Haystack High

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.17 +/- 0.023 0.067 (0.059, 0.076) Extreme Shares: 73 %	0.3 +/- 0.031 0.13 (0.11, 0.14) Extreme Shares: 66 %	0.34 +/- 0.034 0.15 (0.13, 0.17) Extreme Shares: 71 %
Bayesian Epsilon Greedy	0.22 +/- 0.026 0.088 (0.078, 0.1) Extreme Shares: 67 %	0.26 +/- 0.029 0.11 (0.094, 0.12) Extreme Shares: 68 %	0.37 +/- 0.034 0.15 (0.13, 0.17) Extreme Shares: 66 %
Bayesian Greedy	0.23 +/- 0.026 0.086 (0.076, 0.097) Extreme Shares: 65 %	0.29 +/- 0.03 0.12 (0.1, 0.13) Extreme Shares: 65 %	0.37 +/- 0.033 0.14 (0.12, 0.16) Extreme Shares: 63 %

Results for SoftMax $t = 1000$ Needle In Haystack High

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.43 +/- 0.0082 0.0088 (0.0078, 0.01) Extreme Shares: 0 %	0.46 +/- 0.012 0.018 (0.016, 0.02) Extreme Shares: 0 %	0.52 +/- 0.016 0.033 (0.029, 0.037) Extreme Shares: 0 %
Bayesian Epsilon Greedy	0.42 +/- 0.011 0.016 (0.014, 0.018) Extreme Shares: 0 %	0.46 +/- 0.013 0.023 (0.021, 0.027) Extreme Shares: 0 %	0.5 +/- 0.017 0.036 (0.032, 0.041) Extreme Shares: 0 %
Bayesian Greedy	0.39 +/- 0.013 0.022 (0.02, 0.025) Extreme Shares: 0 %	0.44 +/- 0.015 0.03 (0.026, 0.034) Extreme Shares: 0 %	0.49 +/- 0.017 0.039 (0.034, 0.044) Extreme Shares: 0 %

Results for HardMax t = 1000 Heavy Tail

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.042 +/- 0.014 0.026 (0.023, 0.03) Extreme Shares: 93 %	0.081 +/- 0.021 0.06 (0.053, 0.068) Extreme Shares: 93 %	0.12 +/- 0.027 0.091 (0.081, 0.1) Extreme Shares: 93 %
Bayesian Epsilon Greedy	0.11 +/- 0.022 0.062 (0.055, 0.071) Extreme Shares: 84 %	0.15 +/- 0.026 0.087 (0.077, 0.099) Extreme Shares: 81 %	0.16 +/- 0.028 0.099 (0.088, 0.11) Extreme Shares: 83 %
Bayesian Greedy	0.14 +/- 0.024 0.077 (0.068, 0.088) Extreme Shares: 82 %	0.2 +/- 0.031 0.13 (0.11, 0.14) Extreme Shares: 83 %	0.18 +/- 0.027 0.097 (0.086, 0.11) Extreme Shares: 76 %

Results for HardMaxWithRandom t = 1000 Heavy Tail

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.12 +/- 0.018 0.042 (0.037, 0.048) Extreme Shares: 80 %	0.17 +/- 0.024 0.073 (0.065, 0.083) Extreme Shares: 75 %	0.21 +/- 0.028 0.1 (0.092, 0.12) Extreme Shares: 76 %
Bayesian Epsilon Greedy	0.17 +/- 0.021 0.055 (0.049, 0.063) Extreme Shares: 67 %	0.27 +/- 0.026 0.09 (0.08, 0.1) Extreme Shares: 54 %	0.25 +/- 0.027 0.095 (0.084, 0.11) Extreme Shares: 62 %
Bayesian Greedy	0.21 +/- 0.024 0.077 (0.068, 0.087) Extreme Shares: 63 %	0.31 +/- 0.029 0.11 (0.096, 0.12) Extreme Shares: 55 %	0.3 +/- 0.028 0.1 (0.091, 0.12) Extreme Shares: 54 %

Results for SoftMax t = 1000 Heavy Tail

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.44 +/- 0.0059 0.0045 (0.004, 0.0052) Extreme Shares: 0 %	0.48 +/- 0.0083 0.009 (0.008, 0.01) Extreme Shares: 0 %	0.48 +/- 0.011 0.015 (0.013, 0.017) Extreme Shares: 0 %
Bayesian Epsilon Greedy	0.43 +/- 0.0084 0.0092 (0.0081, 0.01) Extreme Shares: 0 %	0.46 +/- 0.0087 0.0098 (0.0087, 0.011) Extreme Shares: 0 %	0.47 +/- 0.012 0.018 (0.016, 0.021) Extreme Shares: 0 %
Bayesian Greedy	0.44 +/- 0.0099 0.013 (0.011, 0.014) Extreme Shares: 0.2 %	0.47 +/- 0.011 0.016 (0.014, 0.018) Extreme Shares: 0.2 %	0.49 +/- 0.011 0.015 (0.014, 0.017) Extreme Shares: 0 %

Results for HardMax t = 1000 Uniform

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.092 +/- 0.02 0.053 (0.047, 0.06) Extreme Shares: 86 %	0.14 +/- 0.026 0.089 (0.079, 0.1) Extreme Shares: 84 %	0.19 +/- 0.03 0.11 (0.1, 0.13) Extreme Shares: 81 %
Bayesian Epsilon Greedy	0.16 +/- 0.026 0.089 (0.079, 0.1) Extreme Shares: 80 %	0.18 +/- 0.028 0.1 (0.089, 0.11) Extreme Shares: 76 %	0.19 +/- 0.03 0.12 (0.1, 0.13) Extreme Shares: 82 %
Bayesian Greedy	0.18 +/- 0.029 0.11 (0.095, 0.12) Extreme Shares: 81 %	0.19 +/- 0.029 0.11 (0.099, 0.13) Extreme Shares: 79 %	0.23 +/- 0.031 0.12 (0.11, 0.14) Extreme Shares: 75 %

Results for HardMaxWithRandom t = 1000 Uniform

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.22 +/- 0.024 0.076 (0.067, 0.086) Extreme Shares: 60 %	0.27 +/- 0.028 0.1 (0.091, 0.12) Extreme Shares: 61 %	0.31 +/- 0.031 0.12 (0.11, 0.14) Extreme Shares: 61 %
Bayesian Epsilon Greedy	0.27 +/- 0.026 0.088 (0.078, 0.1) Extreme Shares: 54 %	0.3 +/- 0.028 0.1 (0.091, 0.12) Extreme Shares: 54 %	0.35 +/- 0.03 0.12 (0.11, 0.14) Extreme Shares: 53 %
Bayesian Greedy	0.25 +/- 0.026 0.086 (0.076, 0.098) Extreme Shares: 59 %	0.32 +/- 0.029 0.11 (0.099, 0.13) Extreme Shares: 55 %	0.36 +/- 0.03 0.12 (0.11, 0.14) Extreme Shares: 52 %

Results for SoftMax t = 1000 Uniform

	Thompson Sampling	Bayesian Epsilon Greedy	Bayesian Greedy
Thompson Sampling	0.45 +/- 0.0084 0.0091 (0.0081, 0.01) Extreme Shares: 0 %	0.47 +/- 0.0099 0.013 (0.011, 0.014) Extreme Shares: 0 %	0.51 +/- 0.013 0.021 (0.018, 0.024) Extreme Shares: 0 %
Bayesian Epsilon Greedy	0.44 +/- 0.01 0.013 (0.012, 0.015) Extreme Shares: 0 %	0.46 +/- 0.011 0.016 (0.014, 0.018) Extreme Shares: 0 %	0.49 +/- 0.014 0.024 (0.021, 0.027) Extreme Shares: 0.2 %
Bayesian Greedy	0.43 +/- 0.011 0.017 (0.015, 0.019) Extreme Shares: 0 %	0.46 +/- 0.012 0.019 (0.017, 0.021) Extreme Shares: 0 %	0.49 +/- 0.013 0.022 (0.02, 0.025) Extreme Shares: 0.2 %