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WES 237B

Lab 5

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Lab Results

AND Gate

	Trail 1	Trail 2	Trail 3	Trail 4	Trail 5	Average
Accuracy	100%	100%	100%	100%	100%	100%
Real Time (s)	7.208	7.157	6.409	7.033	6.623	6.886
User Time (s)	3.460	3.332	3.304	3.364	3.252	3.342
Sys Time (s)	2.992	2.804	2.724	2.760	2.672	2.790

XNOR Gate

	Trail 1	Trail 2	Trail 3	Trail 4	Trail 5	Average
Accuracy	75%	75%	100%	75%	100%	85%
Real Time (s)	6.754	6.439	5.986	6.761	6.803	6.549
User Time (s)	3.344	3.364	3.224	3.368	3.200	3.300
Sys Time (s)	2.644	2.644	2.524	2.692	2.848	2.670

The XNOR gate showed a lower accuracy than the AND gate. My guess is that this is due to XNOR being a more complex function, requiring both inputs to match, rather than the simple monotonic nature of an AND gate. Furthermore, the XNOR was inconsistent due to the random elements in the program. Since the loss function output was still decreasing when each training session ended, it is likely with more epochs that the average accuracy could be further improved.