LEARNING OBJECTIVES - Lecture 21 (Quantization Theory)

After attending lecture and completing the associated readings, you should be able to:

1. Derive the nearest neighbor and centroid conditions, as well as the Lloyd-Max algorithm.
2. Discuss the nature of solutions that the Lloyd-Max algorithm produces.
3. Describe companding quantizer constructions.
4. Within high-rate quantization theory, derive the optimal quantizer point density function for fixed-rate quantization.
5. Discuss the basic results of entropy-constrained scalar quantization at high rates.