Estimating Conditional Continuous Probability Distributions

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CDEST Model (256 bins): purplish grey
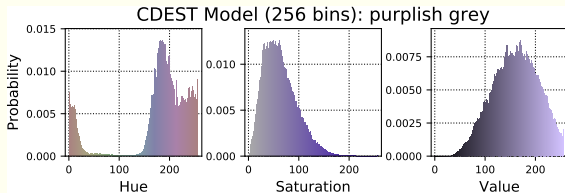
Conditional PMF $\iff P(Y = y \mid X = x) \iff$ Softmax Classifier

Conditional PDF $\iff f_Y(y \mid X = x) \iff$ Function Approximation

Two tricks:

Approximate CDF, then differentiate.

Loss function is the difference between estimated CDF and observation counts.

Malik Magdon-Ismail and Amir Atiya. "Neural networks for density estimation". In: *NIPS*. 1998, pp. 522–528