CS 6347 Statistical Methods in AI and Machine Learning (3 semester credit hours) Introduction to the probabilistic and statistical techniques used in modern computer systems. Probabilistic graphical models such as Bayesian and Markov networks. Probabilistic inference techniques including variable elimination, belief propagation and its generalizations, and sampling-based algorithms such as importance sampling and Markov Chain Monte Carlo sampling. Statistical learning techniques for learning the structure and parameters of graphical models. Sequential models such as Hidden Markov models and Dynamic Bayesian networks. Prerequisites: CS 3341 and CS 5343 or equivalent or instructor consent required. (3-0) Y