CS 8725: Report for assignment 2

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September 9, 2015

1. Parameters list:

$$P(Y)$$
$$P(X_1|Y), \qquad Y \in \{T, F\}$$
$$P(X_i|Y) \sim N(\mu_i, \sigma_i^2), \qquad Y \in \{T, F\},\ 2 \leq i \leq d$$

The total number of parameters $= 1 + 2 + 2 \times 2 \times (d-1) = 4d - 1$.

$$P(Y|X) = \frac{P(X|Y) \cdot P(Y)}{P(X)} \tag{1}$$
$$= \frac{P(X_1|Y) \cdot \prod_{i=2}^{d} N(\mu_i, \sigma_i^2) \cdot P(Y)}{P(X)} \tag{2}$$