

input age  $< 31 \dots 40$ , income = high,

student = yes, credit = fair

$$p(c_i) = p(\text{buys-computer} = \text{"yes"}) = 9/14$$

$$= p(\text{buys-computer} = \text{"no"}) = 5/14$$

$$p(\text{age} = \text{"< 31...40"} | \text{buys-com} = \text{"yes"}) = \frac{4}{9} \rightarrow \frac{5}{11}$$

$$p(\text{age} = \text{"< 31...40"} | \text{buys-com} = \text{"no"}) = \frac{0}{5} \rightarrow \frac{1}{7}$$

$$p(\text{income} = \text{"high"} | \text{buys-com} = \text{"yes"}) = \frac{2}{9}$$

$$p(\text{income} = \text{"high"} | \text{buys-com} = \text{"no"}) = \frac{2}{5}$$

$$p(\text{student} = \text{"yes"} | \text{buys-com} = \text{"yes"}) = \frac{6}{9}$$

$$p(\text{student} = \text{"yes"} | \text{buys-com} = \text{"no"}) = \frac{4}{5}$$

$$p(\text{credit}) = \text{"fair"} | \text{buys-com} = \text{"yes"} = 6/9$$

$$p(\text{credit}) = \text{"fair"} | \text{buys-com} = \text{"no"} = 2/5$$

$$p(x|c_i) = p(x | \text{buys-computer} = \text{"yes"}) = \frac{5}{11} \times \frac{2}{9} \times \frac{6}{9} \times \frac{6}{9} = 0.045$$

$$= p(x | \text{buys-computer} = \text{"no"}) = \frac{1}{7} \times \frac{2}{5} \times \frac{1}{5} \times \frac{2}{5} = 0.002$$

$$p(x|c_i) * p(c_i) = p(x | \text{buys-computer} = \text{"yes"}) * p(x | \text{buys-computer} = \text{"yes"})$$
$$= 0.045 \left( \frac{9}{14} \right) = 0.643$$

$$p(x | \text{buys-computer} = \text{"no"}) * p(x | \text{buys-computer} = \text{"no"})$$
$$= 0.002 \left( \frac{5}{14} \right) = 0.01$$