**CS530 Homework 7 Part 1**

1. (4 points) The fictional Heineken Virus is spreading across the world. The World Health Organization (WHO) has collected some data about 1000 patients (500 of them are infected by the virus and 500 of them are not) in a hospital shown in the following table:

|  |  |  |
| --- | --- | --- |
| Features | Infected? (Yes) | Infected? (No) |
| Red cheeks | 359 | 278 |
| Dry skin | 458 | 232 |
| Pain in the knees | 224 | 159 |
| Attended events > 50 people in the past week | 44 | 29 |
| Age < 40 | 245 | 411 |
| Bought toilet paper last week | 123 | 111 |

You were worried about the outbreak out last week and bought some toilet paper in Costco, just in case. Based on the data you have so far from the WHO, if you are now staying home, are 25-year-old, suffer from dry skin, attended a concert with more than 100 people last week and have pain in your knees, what is the probability that you are now suffering from virus now?

Show your calculation on a piece of paper. Take a picture of your paper. And include the picture in your submission to the homework link.