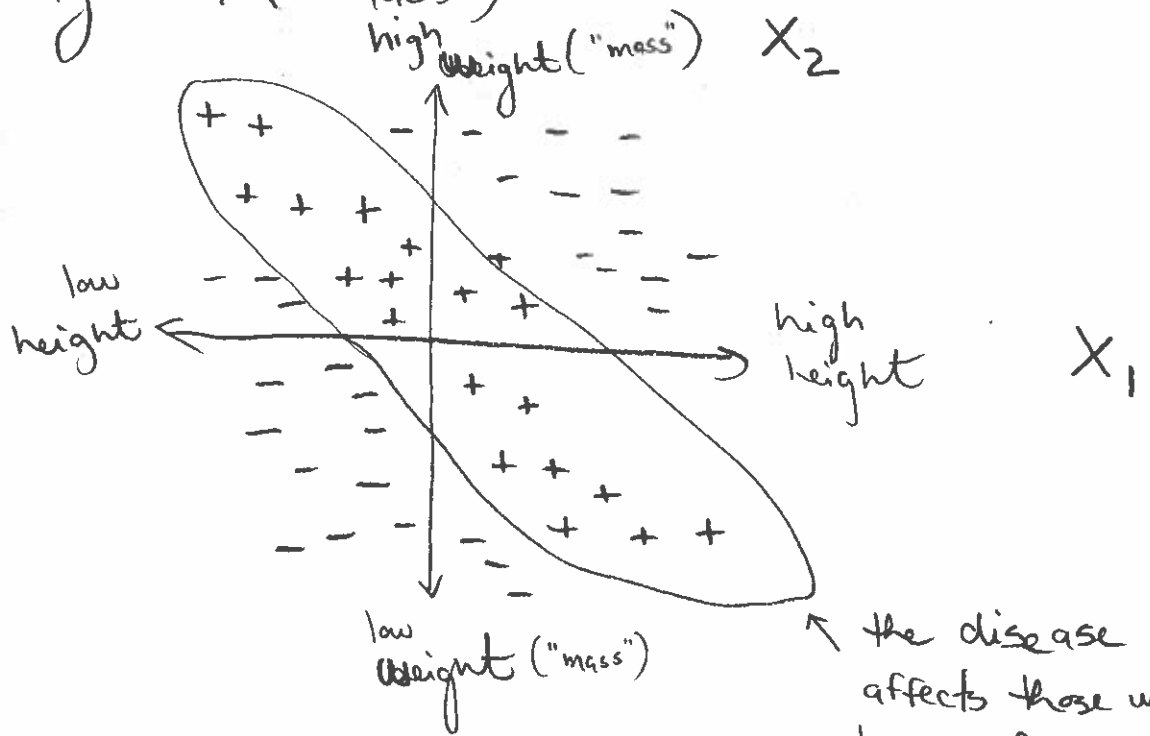


CS378 HW14

In the lecture notes on "Feature Discovery Networks," I present an example that cannot be effectively modeled with logistic regression. The reason that the response variable ("disease") cannot be modeled is because it is an XOR (exclusive OR) function of the evidence variables ("height" and "mass"):



the disease affects those who have either:

- low height, high weight
- high height, low weight

real-world

Come up with another scenario that exhibits the same phenomenon (i.e. the response is positive iff X_1 is high and X_2 is low OR X_1 is low and X_2 is high)