## **MP Neuron Data and Task**

What kind of data and tasks can MP neuron process

1. Consider the example of detecting whether the cricketer is out by LBW

|  |  |  |  |
| --- | --- | --- | --- |
| **Pitch in line(x1)** | **Impact(x2)** | **Missing Stumps(x3)** | **Is it LBW(y)** |
| 1 | 0 | 0 | 0 |
| 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 |
| 0 | 1 | 0 | 0 |

1. We are interested in finding out the relationship between y and xi
2. Here we use y = (3i=1xi >= b)
   1. y = 1 if g(x) >= b
   2. y = 0 if g(x) < b
3. In case our data has non-boolean inputs, we can convert them to a boolean form
4. For example, consider the following boolean-ised phone spec data

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **phone1** | **phone2** | **phone3** | **phone4** | **phone 5** | **phone 6** | **phone 7** | **phone8** | **phone9** | **phone 10** |
| **Launch (within 6 months) x1** | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| **Weight (<160g) x2** | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| **Screen Size (< 5.9in) x3** | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| **Dual sim x4** | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| **Internal mem(>= 64gb, 4gb ram) x5** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| **NFC x6** | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| **Radio x7** | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| **Battery (>= 3500mAh) x8** | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| **Price? (> 20k) x9** | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| **Liked (y)** | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |