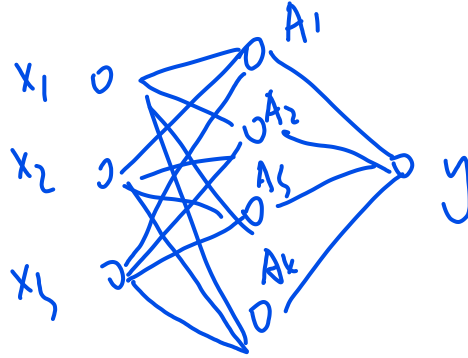


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## CMSE381 - Quiz 11

1. (3pts) Draw a sketch of a neural network taking as input data points of the form  $(X_1, X_2, X_3)$  (so  $p = 3$ ) with one hidden layer containing four hidden units.



2. (3pts) How many parameters are trained by the computer in this setup? Justify your answer.

weight in layer 1 is a  $3 \times 4$  matrix :  $3 \times 4 = 12$  param

4 bias associated to the hidden layer : 4 param.

4 weights in layer 2 : 4 param

1 bias associated to the output layer : 1 param

Total no. of param:  $12 + 4 + 4 + 1 = 21$

Final Survey (4pts) We're reaching the end of the semester!

- How do you feel like the class is going overall, either in general or for you specifically?
- What is one thing you wish you had done to achieve greater success?
- What recommendations, if any, would you provide to the instructors for the development of future versions of this course?