Intruduction to Machine Learning
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github   repository

Homework 3

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▬▬▬ Design simple neural network

Design a simple neural network with one hidden-layer that implements the following function:

$$(A \vee \bar{B}) \oplus (\bar{C} \vee \bar{D})$$

Draw the network and determine all its weights.

Soloution

$$(A \vee \bar{B}) \oplus (\bar{C} \vee \bar{D}) = ((A \vee \bar{B}) \vee (C \wedge D)) \vee ((\bar{A} \wedge B) \vee (\bar{C} \vee \bar{D}))$$
$$= ((A \vee \bar{B} \vee C) \wedge (A \vee \bar{B} \vee D)) \vee ((\bar{A} \vee \bar{C} \vee \bar{D}) \wedge (B \vee \bar{C} \vee \bar{D}))$$

End of Homework 3