1. **Which of the following statements are true? (*Check all that apply*)** **1 point**

- [ ] **Linear classifiers are never useful, because they cannot represent XOR.**
- [ ] **Linear classifiers are useful, because, with enough data, they can represent anything.**
- [x] **Having good non-linear features can allow us to learn very accurate linear classifiers.**
- [ ] **none of the above**

2. **A simple linear classifier can represent which of the following functions? (*Check all that apply*)** **1 point**

Hint: If you are stuck, see https://www.coursera.org/learn/ml-foundations/module/nqC1t/discussions/AAIUurrtEeWGphLhfbPAyQ

- [x] **x1 OR x2 OR NOT x3**
- [x] **x1 AND x2 AND NOT x3**
- [x] **x1 OR (x2 AND NOT x3)**
- [ ] **none of the above**

3. Which of the the following neural networks can represent the following function? Select all that apply. **1 point**

(x1 AND x2) OR (NOT x1 AND NOT x2)

Hint: If you are stuck, see https://www.coursera.org/learn/ml-foundations/module/nqC1t/discussions/AAIUurrtEeWGphLhfbPAyQ

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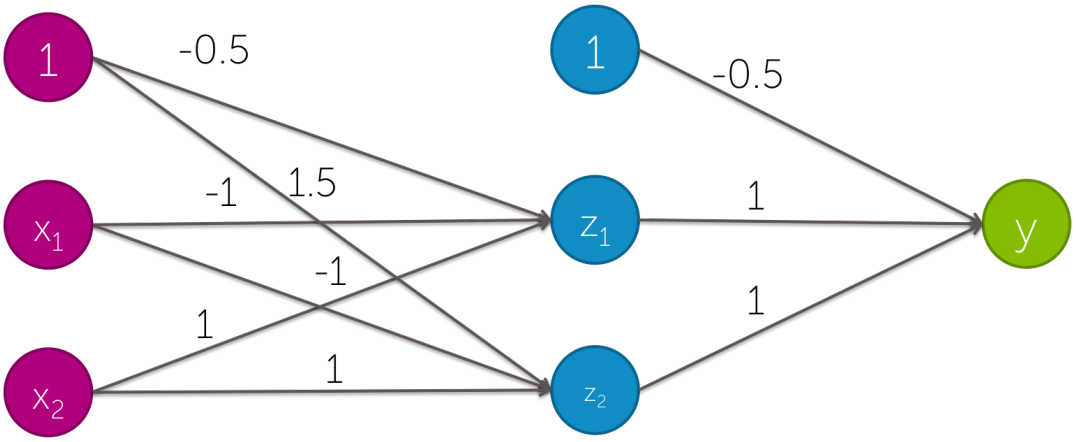

Thresholded to 0 or 1

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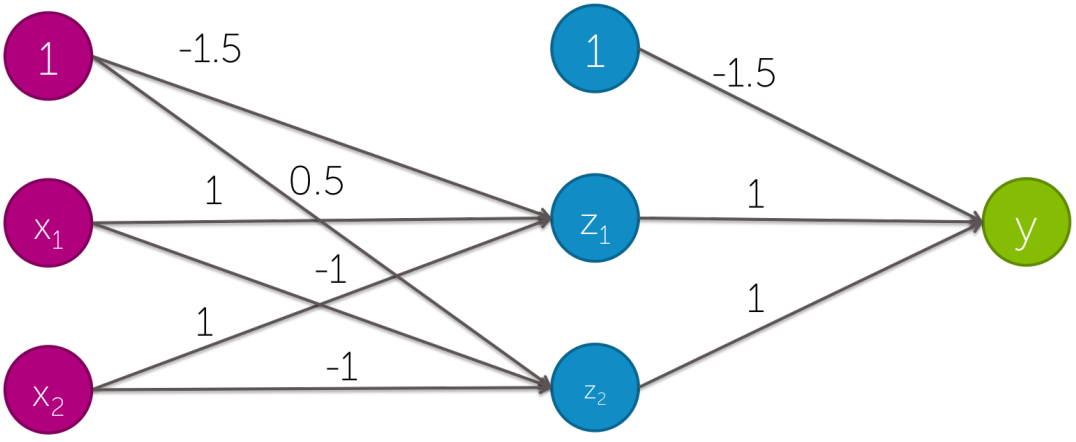

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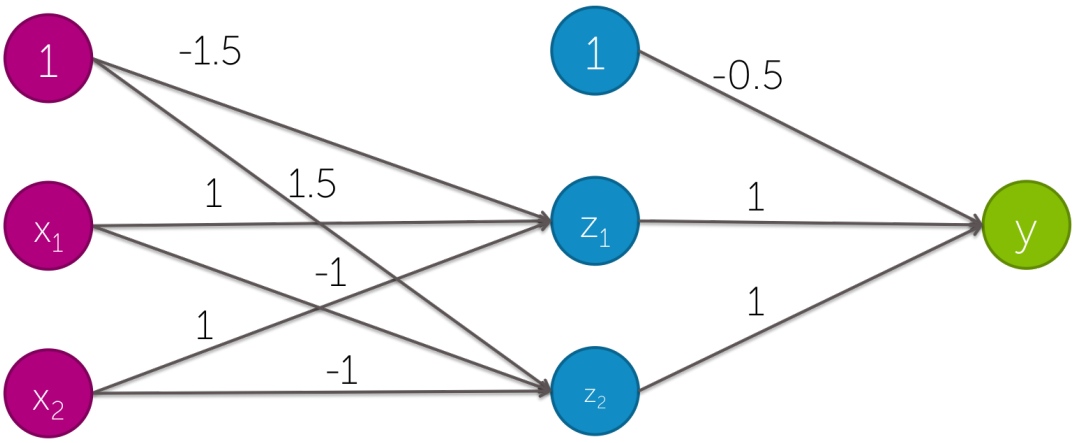

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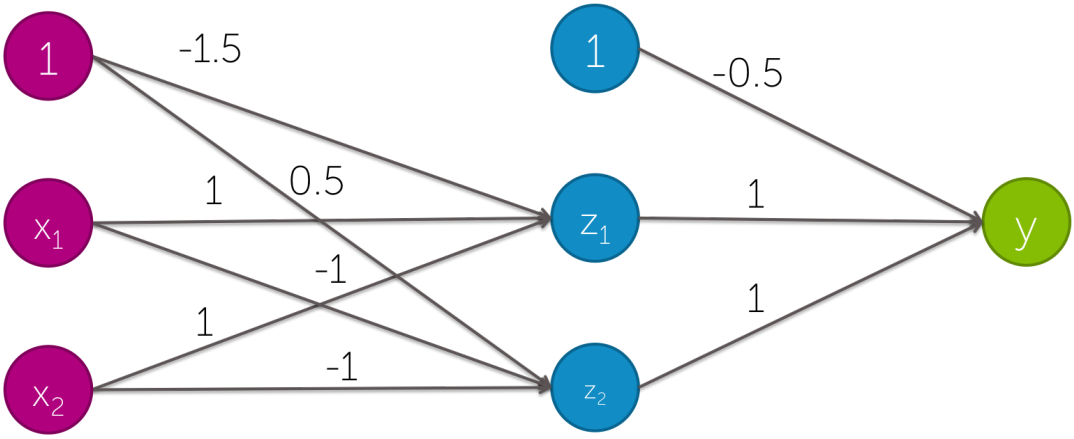
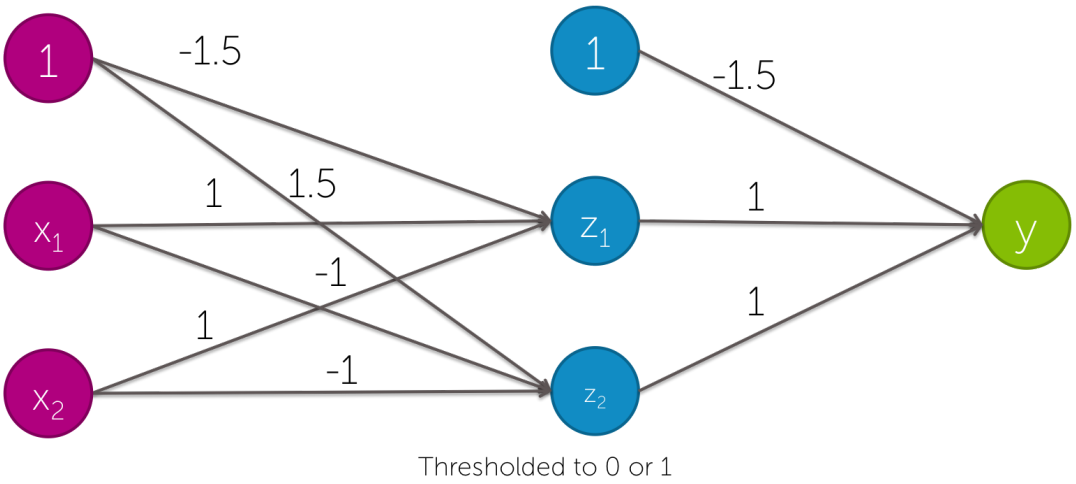


Thresholded to 0 or 1



4. Which of the following statements is true? (*Check all that apply*) **1 point**

- [ ] **Features in computer vision act like local detectors.**
- [x] **Deep learning has had impact in computer vision, because it's used to combine all the different hand-created features that already exist.**
- [ ] **By learning non-linear features, neural networks have allowed us to automatically learn detectors for computer vision.**
- [ ] **none of the above**

5. If you have lots of images of different types of plankton labeled with their species name, and lots of computational resources, what would you expect to perform better predictions: **1 point**

- (•) **a deep neural network trained on this data.**

- ○ **a simple classifier trained on this data, using deep features as input, which were trained using ImageNet data.**

6. **If you have a few images of different types of plankton labeled with their species name, what would you expect to perform better predictions:** **1 point**

- ○ **a deep neural network trained on this data.**
- ◉ **a simple classifier trained on this data, using deep features as input, which were trained using ImageNet data.**

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☑ I, **Oleg Nyzhnyk**, understand that submitting work that isn't my own may result in permanent failure of this course or deactivation of my Coursera account.

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