

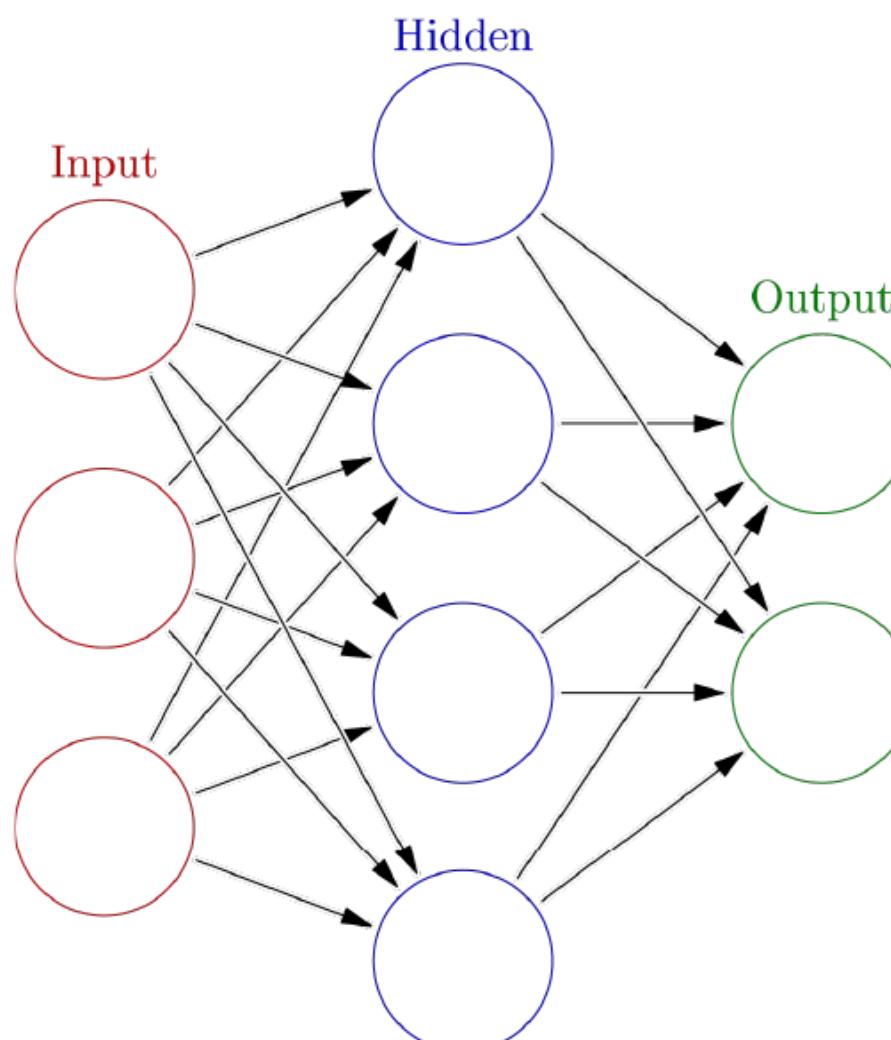
# *Neural Network Training a Regressor*

identifier

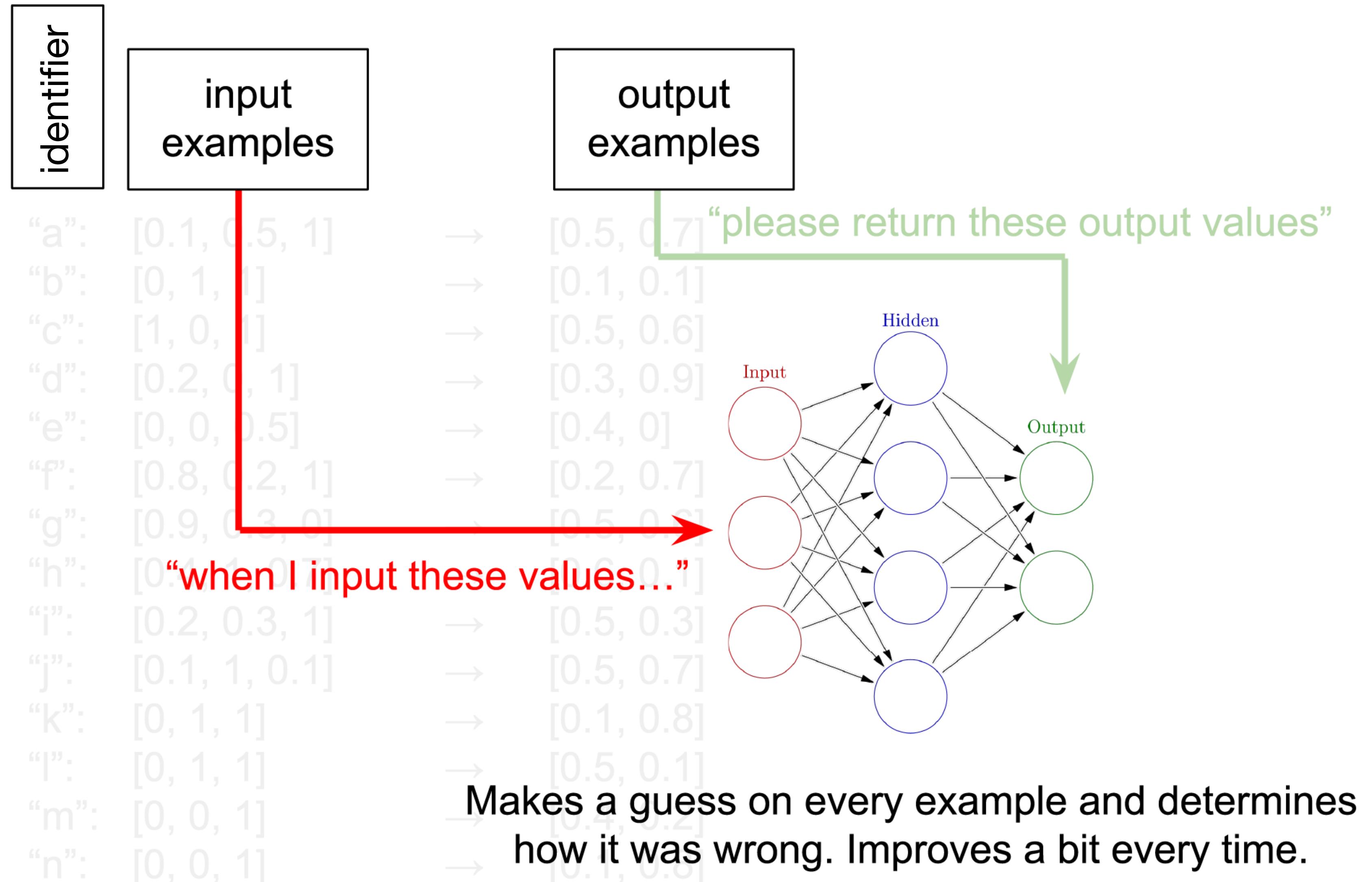
input  
examples

“a”:	[0.1, 0.5, 1]	→	[0.5, 0.7]
“b”:	[0, 1, 1]	→	[0.1, 0.1]
“c”:	[1, 0, 1]	→	[0.5, 0.6]
“d”:	[0.2, 0, 1]	→	[0.3, 0.9]
“e”:	[0, 0, 0.5]	→	[0.4, 0]
“f”:	[0.8, 0.2, 1]	→	[0.2, 0.7]
“g”:	[0.9, 0.3, 0]	→	[0.5, 0.6]
“h”:	[0.4, 1, 0.7]	→	[0.6, 0.1]
“i”:	[0.2, 0.3, 1]	→	[0.5, 0.3]
“j”:	[0.1, 1, 0.1]	→	[0.5, 0.7]
“k”:	[0, 1, 1]	→	[0.1, 0.8]
“l”:	[0, 1, 1]	→	[0.5, 0.1]
“m”:	[0, 0, 1]	→	[0.4, 0.2]
“n”:	[0, 0, 1]	→	[0.1, 0.8]

output  
examples



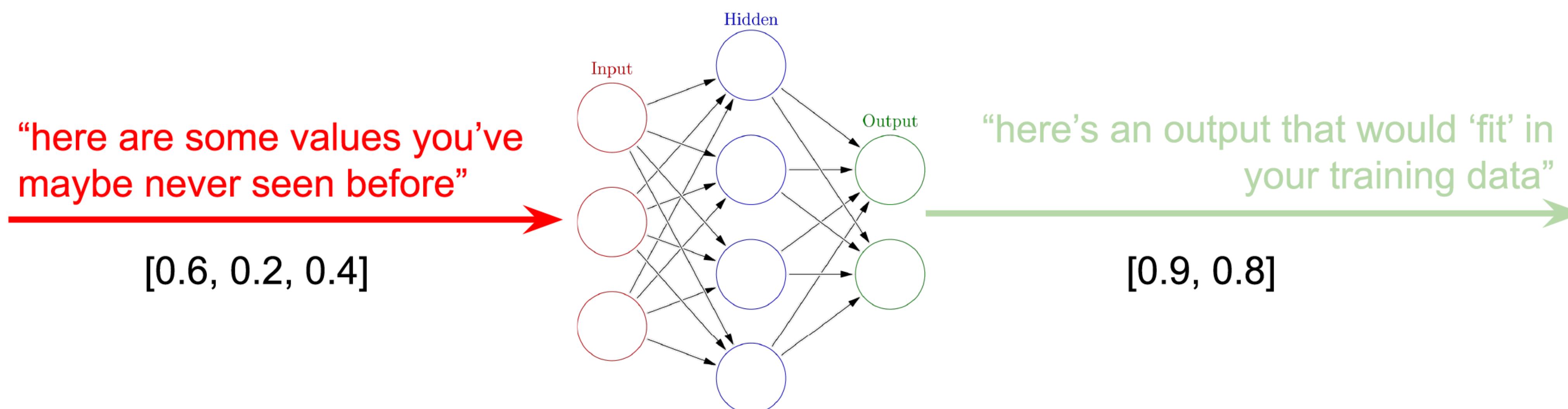
# *Neural Network Training a Regressor*



# Neural Network *Predicting with Regression*

input  
examples

output  
examples



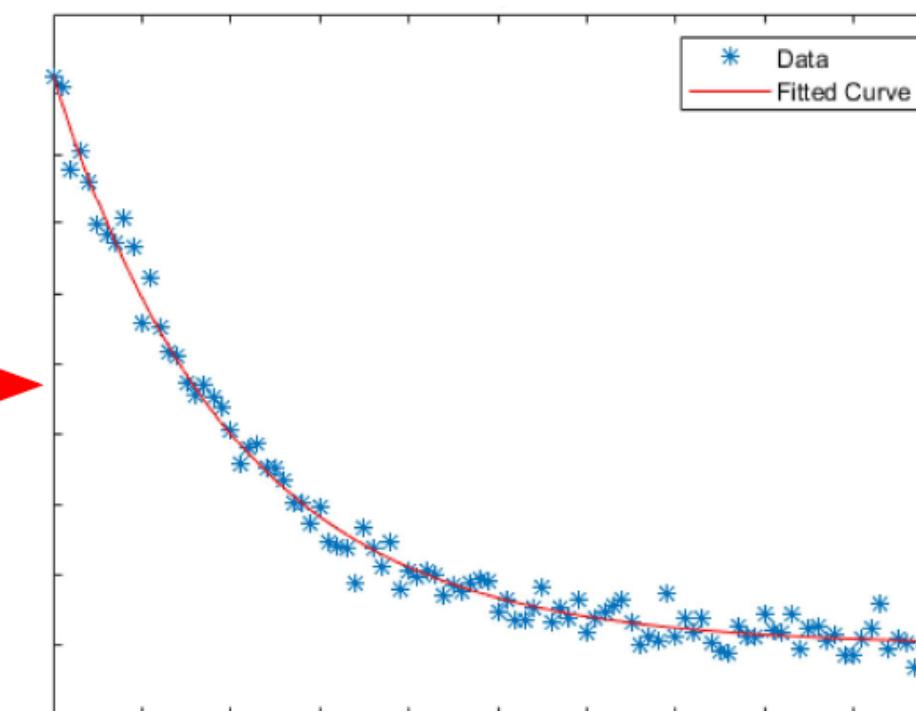
# Neural Network *Predicting with Regression*

input  
examples

output  
examples

“here are some values you’ve  
maybe never seen before”

[0.6, 0.2, 0.4]



“here’s an output that would ‘fit’ in  
your training data”

[0.9, 0.8]

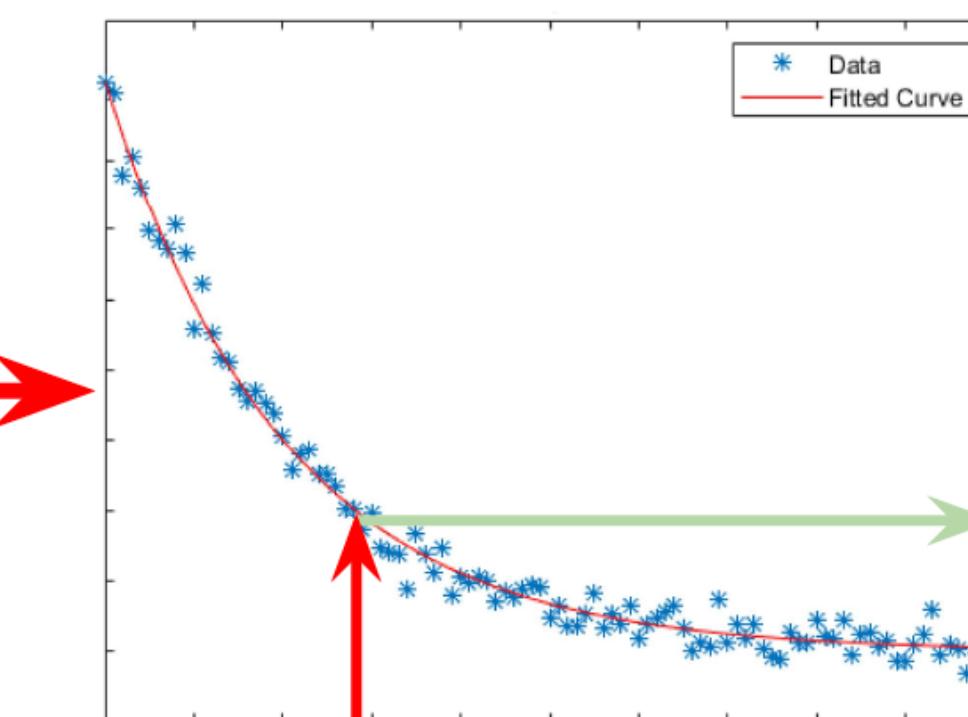
# Neural Network *Predicting with Regression*

input  
examples

output  
examples

“here are some values you’ve  
maybe never seen before”

[0.6, 0.2, 0.4]

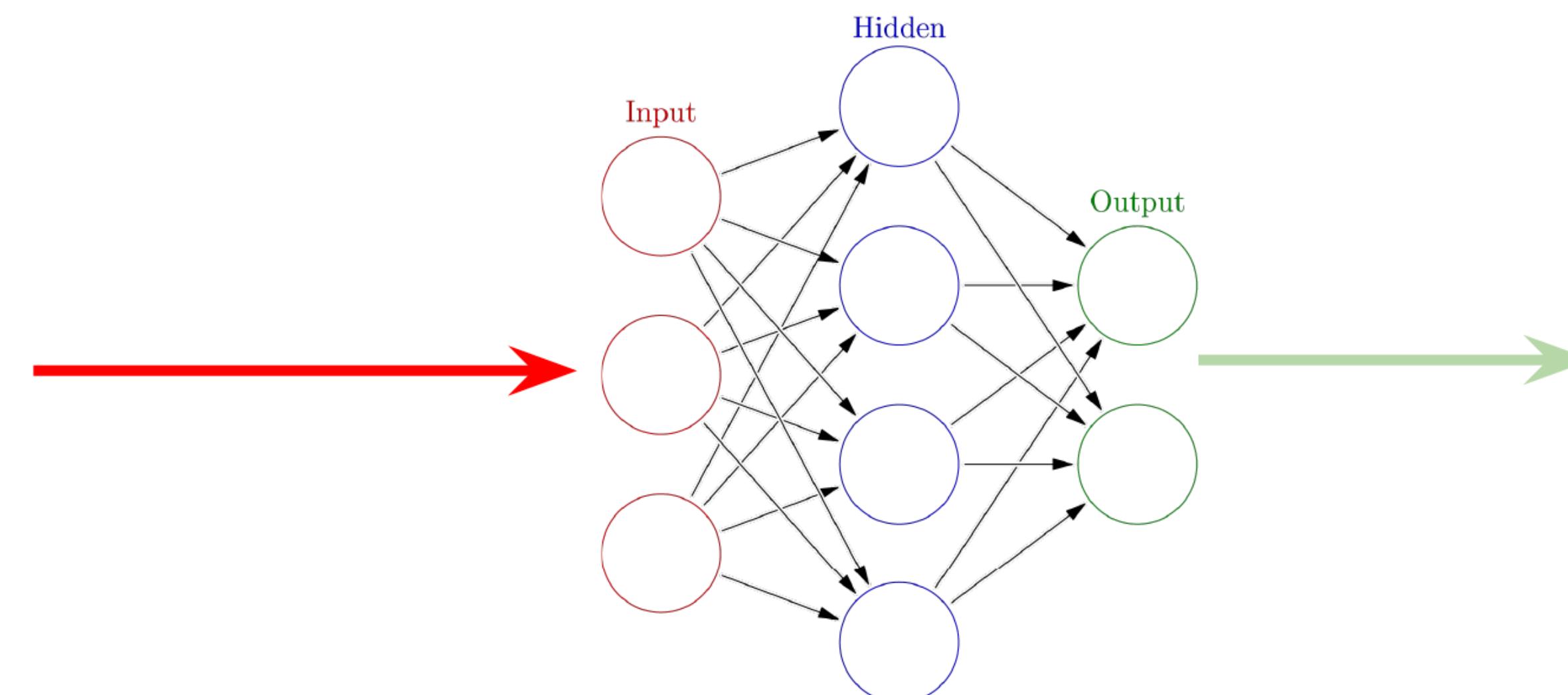


“here’s an output that would ‘fit’ in  
your training data”

[0.9, 0.8]

# Neural Network Predicting with Regression

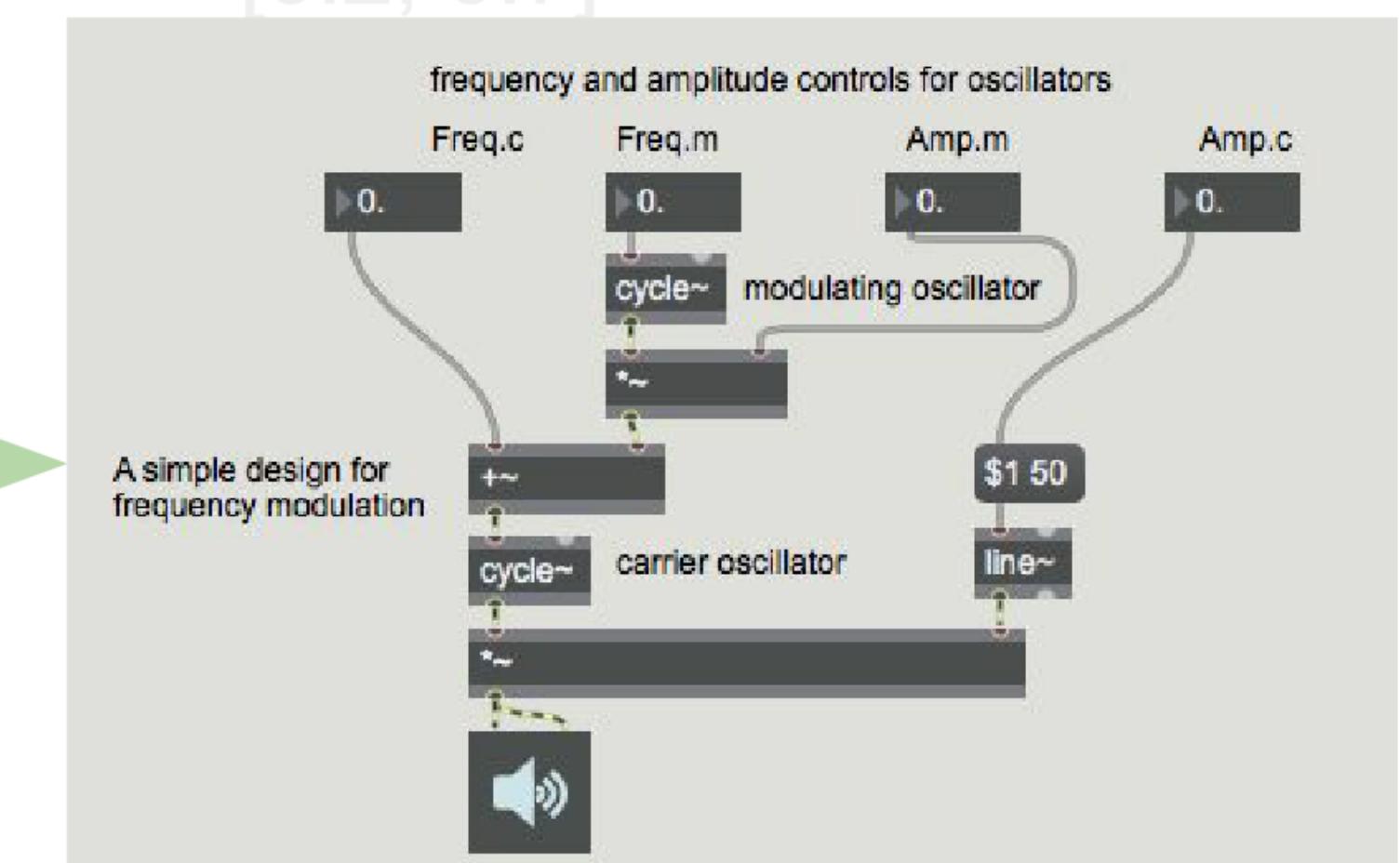
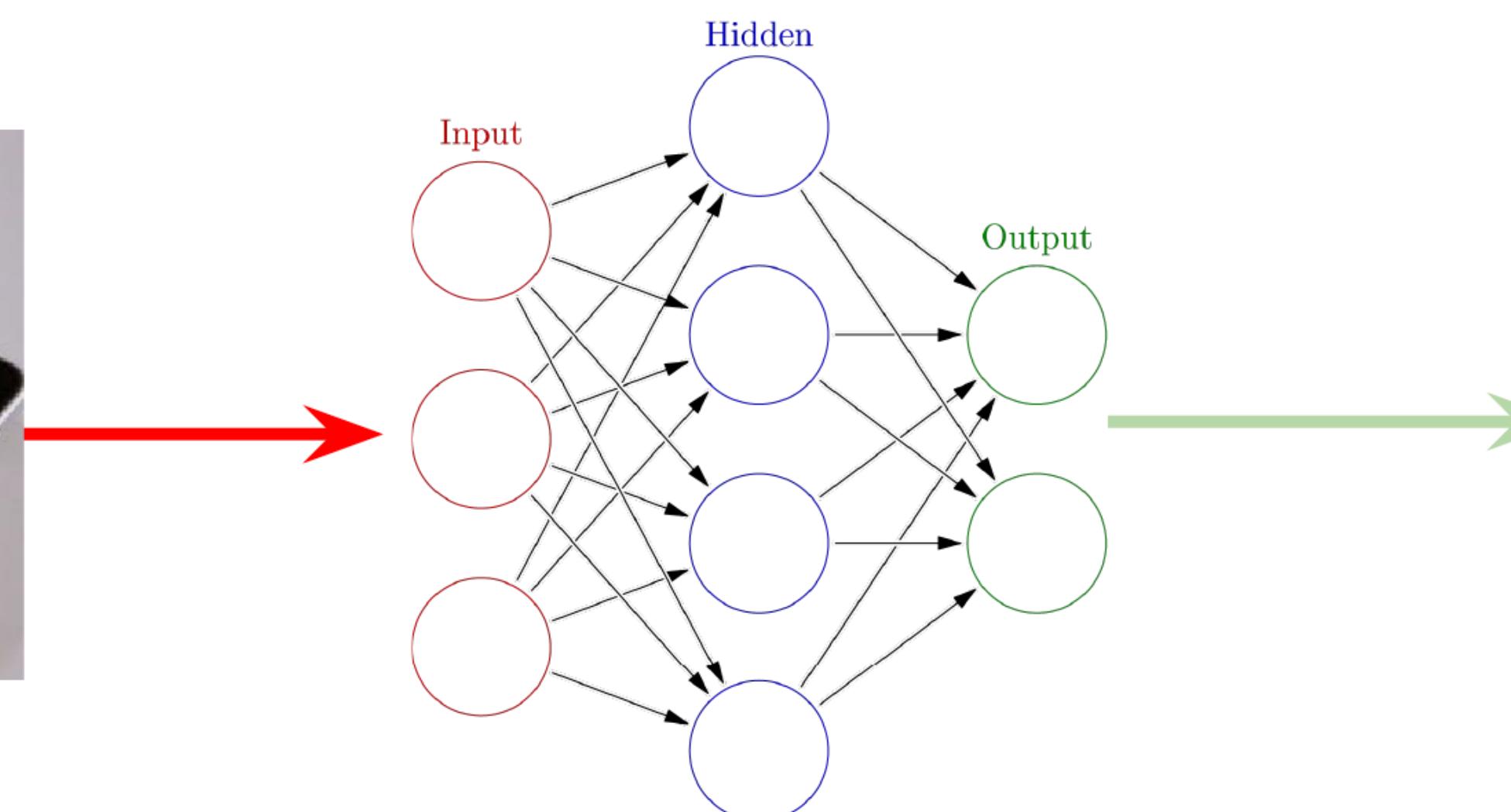
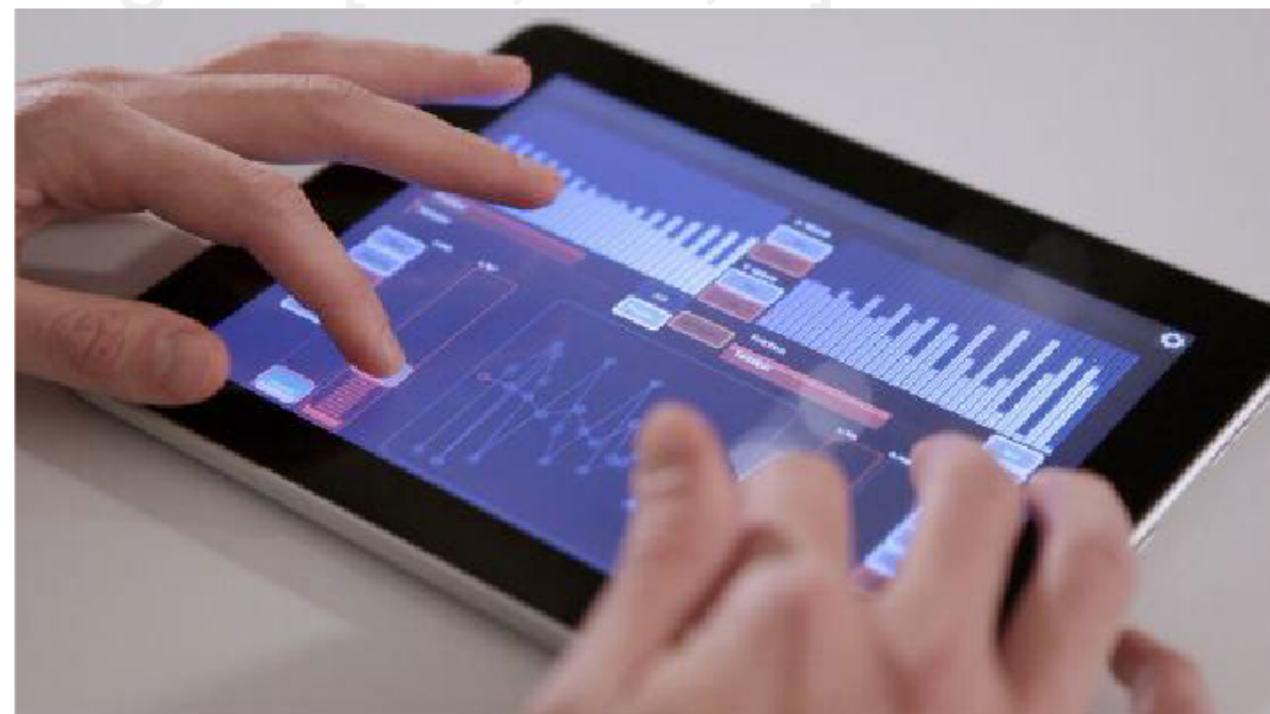
“a”: [0.1, 0.5, 1]  
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“c”: [1, 0, 1]  
“d”: [0.2, 0, 1]  
“e”: [0, 0, 0.5]  
“f”: [0.8, 0.2, 1]  
“g”: [0.9, 0.3, 0]  
“h”: [0.4, 1, 0.7]  
“i”: [0.2, 0.3, 1]  
“j”: [0.1, 1, 0.1]  
“k”: [0, 1, 1]  
“l”: [0, 1, 1]  
“m”: [0, 0, 1]  
“n”: [0.4, 1, 0.7]  
“o”: [0.2, 0.3, 1]  
“p”: [0.1, 1, 0.1]  
“q”: [0, 1, 1]  
“r”: [0, 1, 1]



[0.5, 0.7]  
[0.1, 0.1]  
[0.5, 0.6]  
[0.3, 0.9]  
[0.4, 0]  
[0.2, 0.7]  
[0.5, 0.6]  
[0.6, 0.1]  
[0.5, 0.3]  
[0.5, 0.7]  
[0.1, 0.8]  
[0.5, 0.1]  
[0.4, 0.2]  
[0.1, 0.8]  
[0.5, 0.6]  
[0.3, 0.9]  
[0.4, 0.3]  
[0.2, 0.7]

# Neural Network Predicting with Regression

“a”: [0.1, 0.5, 1]  
“b”: [0, 1, 1]  
“c”: [1, 0, 1]  
“d”: [0.2, 0, 1]  
“e”: [0, 0, 0.5]  
“f”: [0.8, 0.2, 1]  
“g”: [0.9, 0.3, 0]

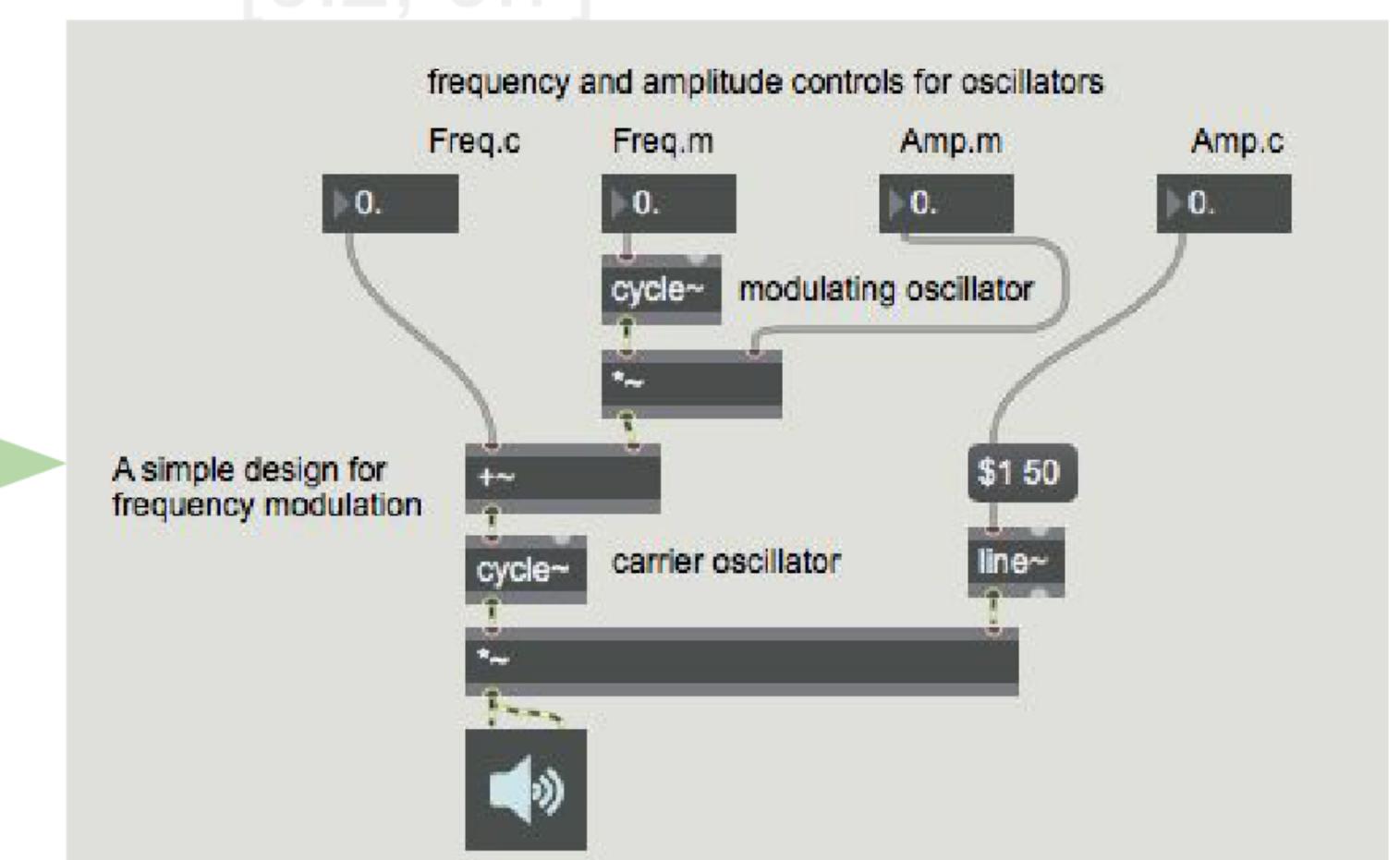
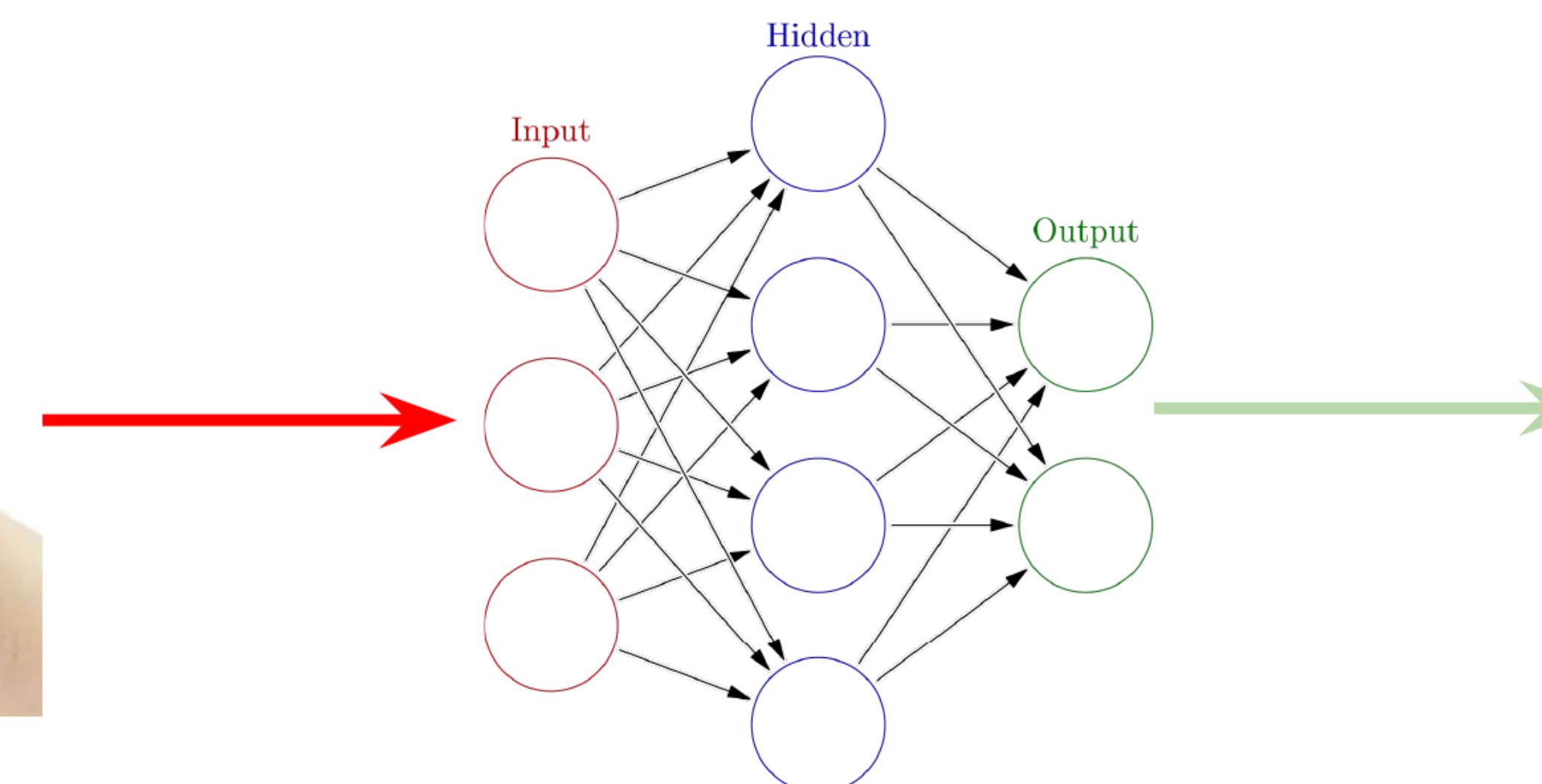
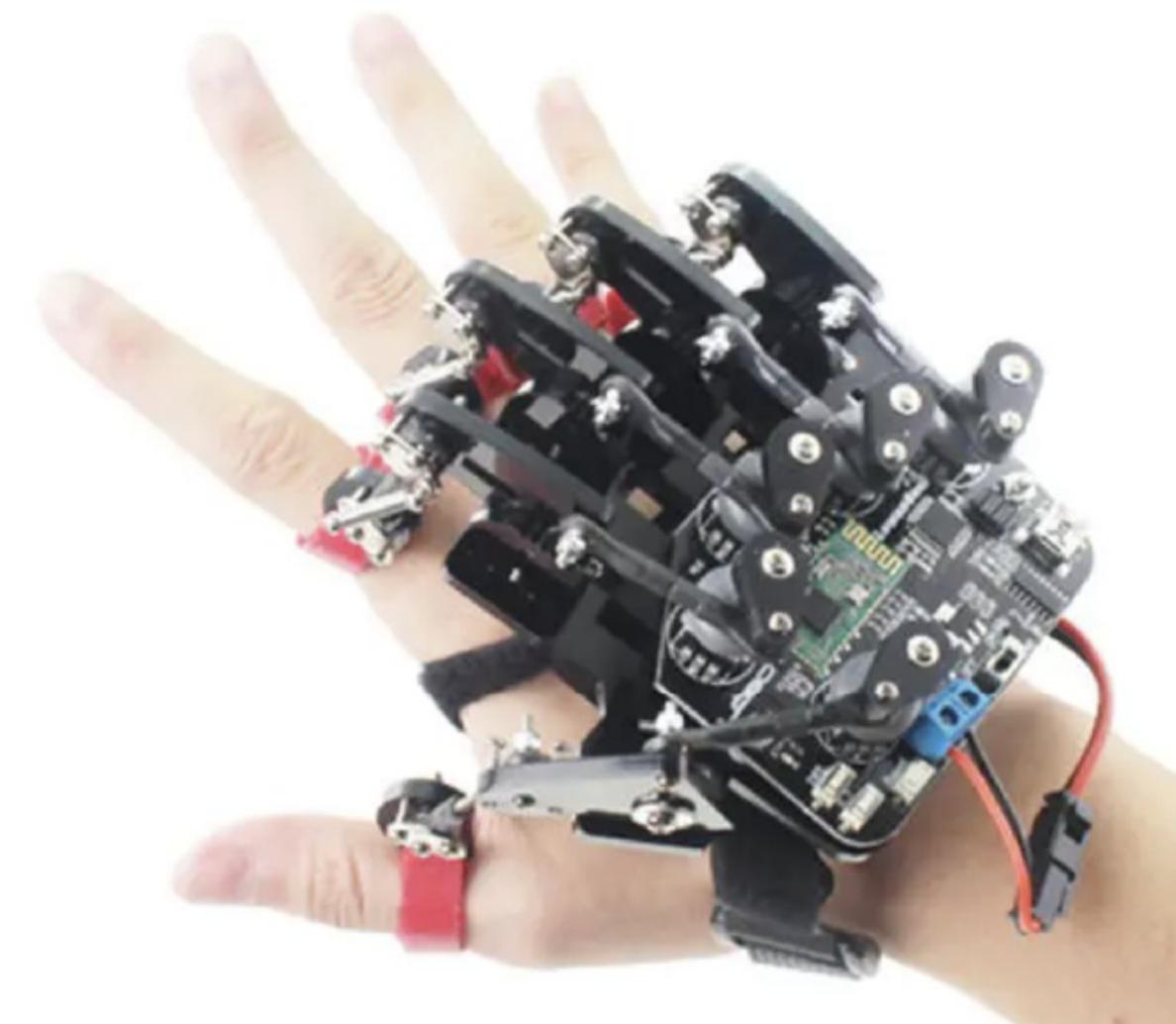


“n”: [0.4, 1, 0.7]  
“o”: [0.2, 0.3, 1]  
“p”: [0.1, 1, 0.1]  
“q”: [0, 1, 1]  
“r”: [0, 1, 1]

[0.5, 0.7]  
[0.1, 0.1]  
[0.5, 0.6]  
[0.3, 0.9]  
[0.4, 0]  
[0.2, 0.7]

[0.5, 0.7]  
[0.1, 0.8]  
[0.5, 0.1]  
[0.4, 0.2]  
[0.1, 0.8]

# *Neural Network Predicting with Regression*



# Neural Network Predicting with Regression

“a”: [0.1, 0.5, 1]

“b”: [0, 1, 1]

“c”: [1, 0, 1]

“d”: [0.2, 0, 1]

“e”: [0, 0, 0.5]

“f”: [0.8, 0.2, 1]



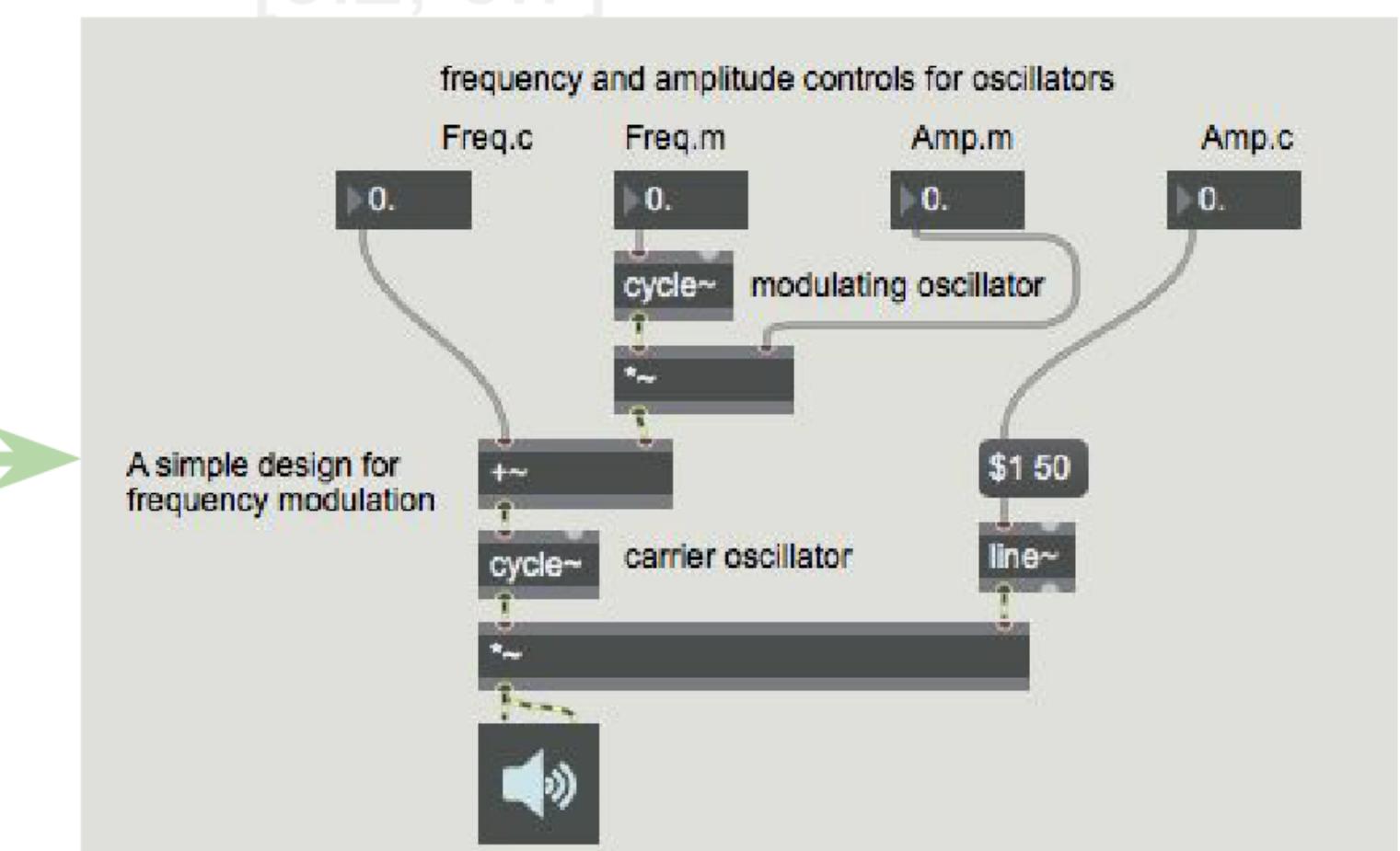
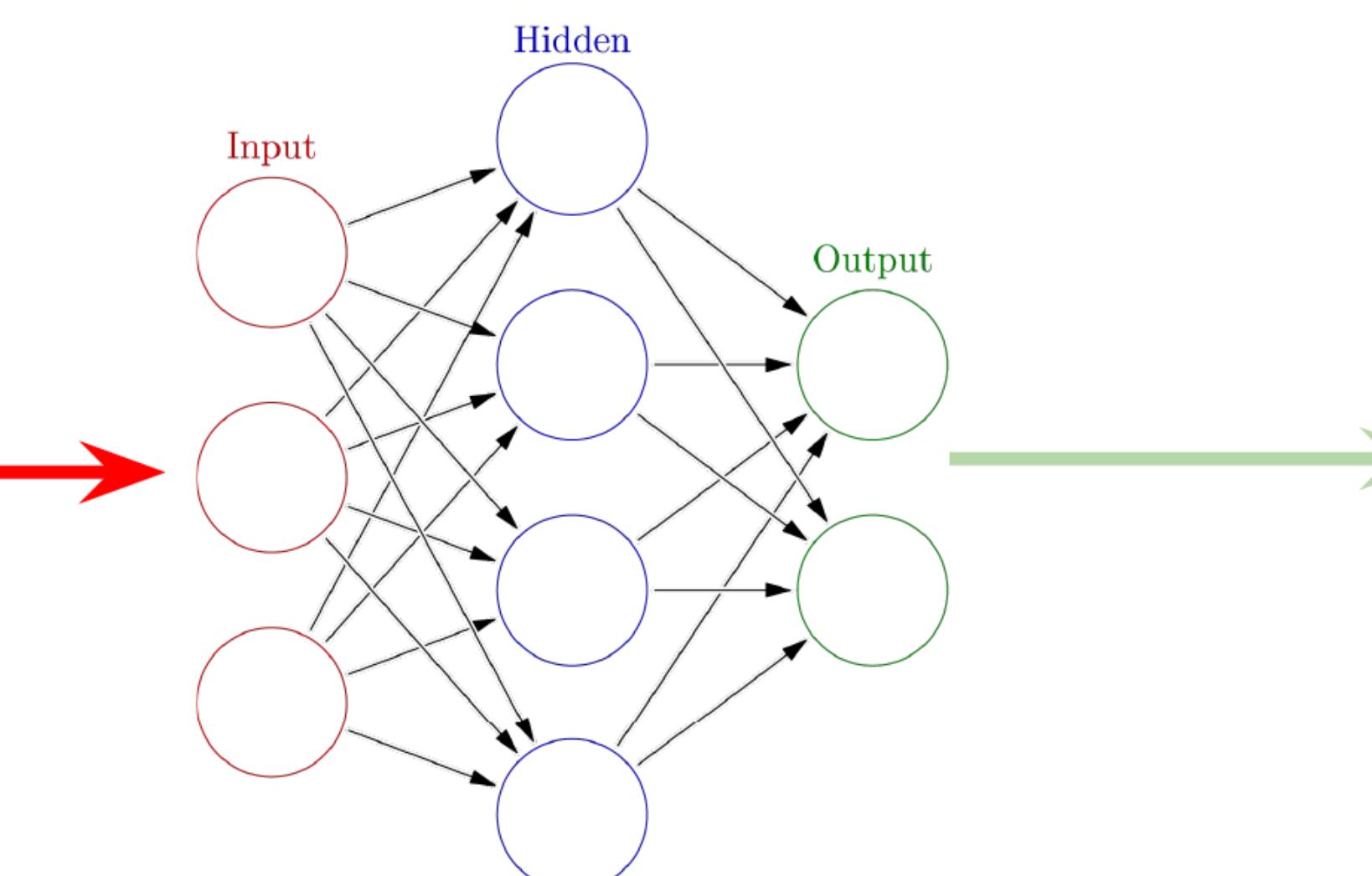
e.g.:

**pitch**

**loudness**

**spectral centroid**

**spectral flatness**



“g”: [0.5, 0.7]

“h”: [0.1, 0.1]

“i”: [0.5, 0.6]

“j”: [0.3, 0.9]

“k”: [0.4, 0]

“l”: [0.2, 0.7]

“m”: [0.5, 0.7]

“n”: [0.1, 0.8]

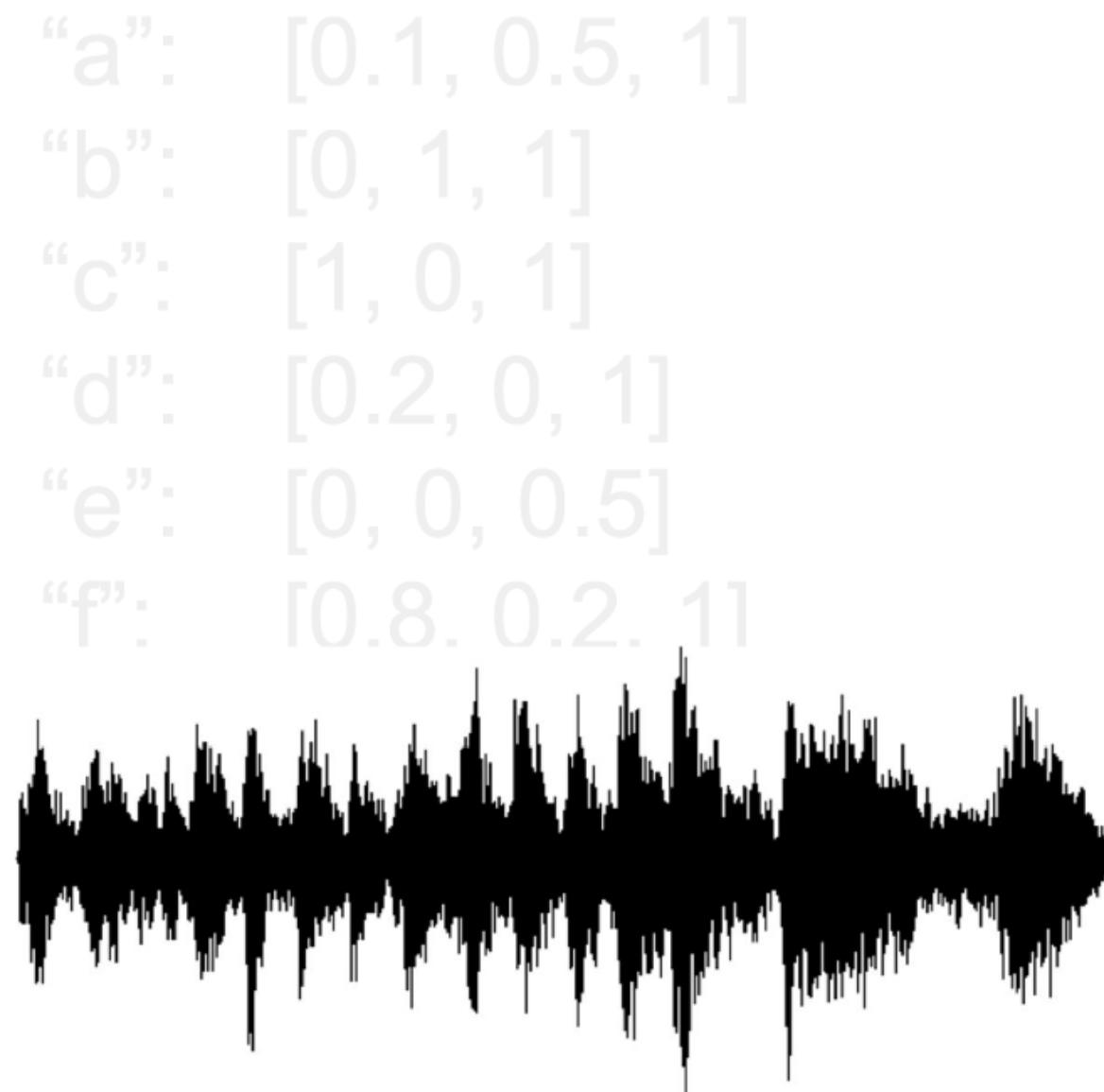
“o”: [0.5, 0.1]

“p”: [0.4, 0.2]

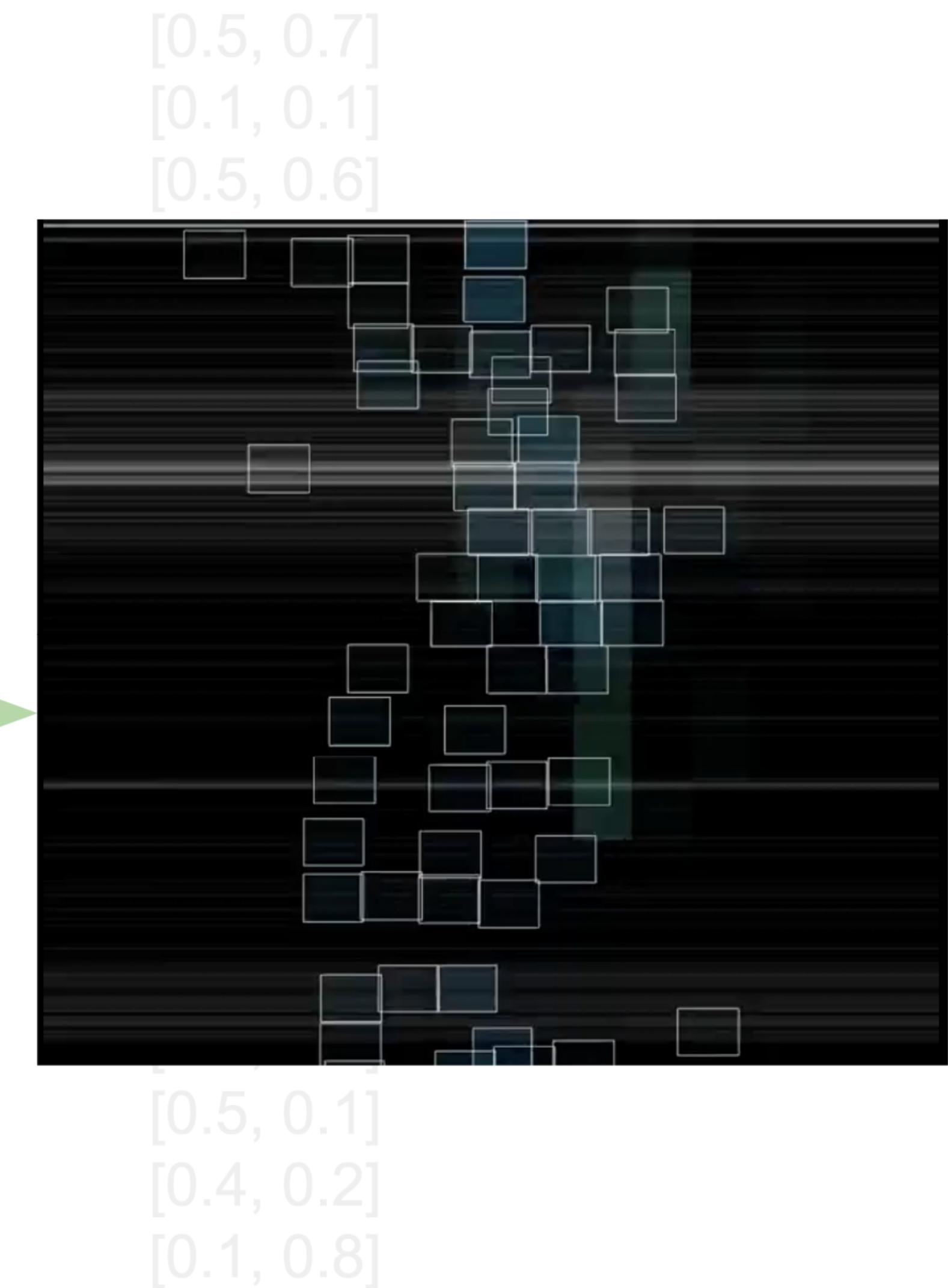
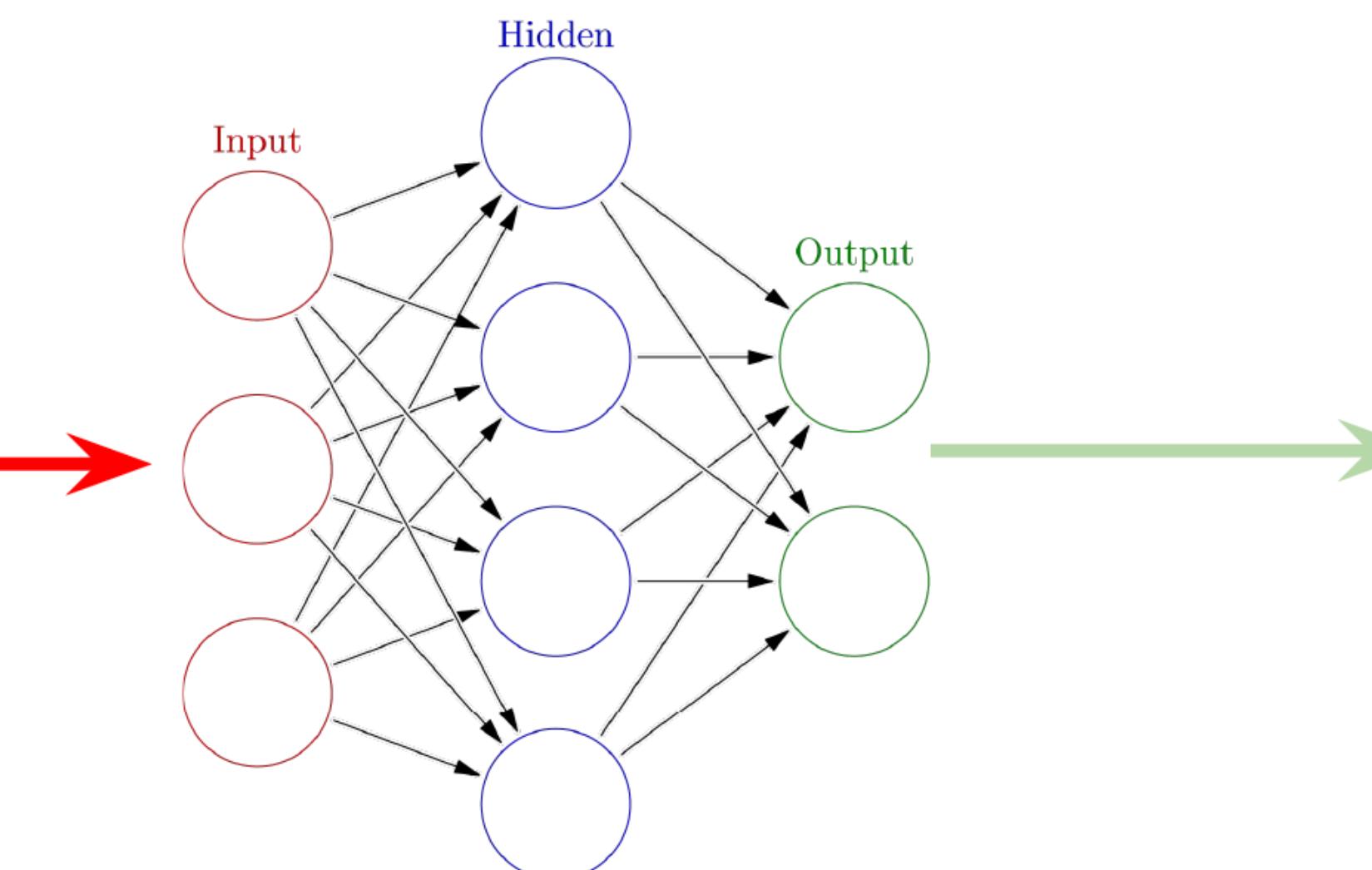
“q”: [0.1, 0.8]

“r”: [0.1, 0.8]

# Neural Network Predicting with Regression

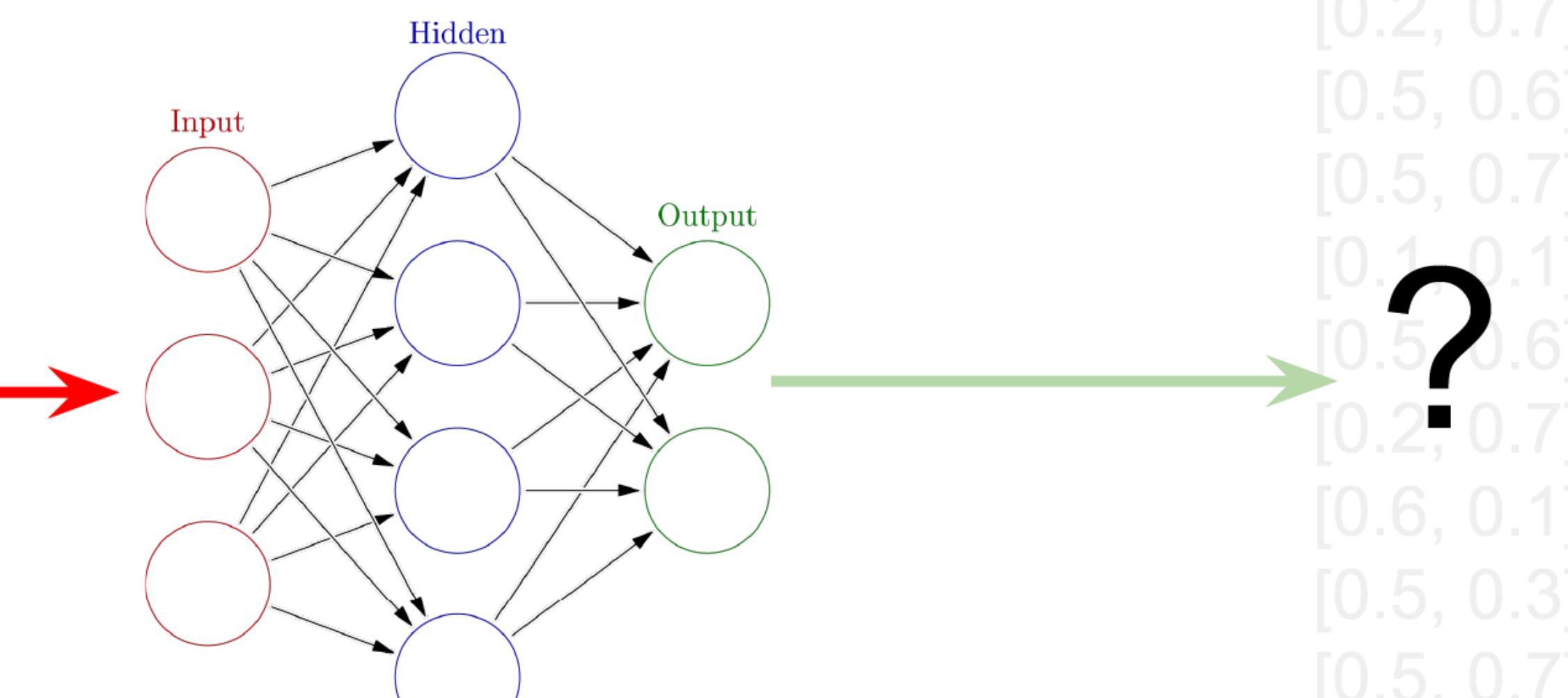


“a”: [0.1, 0.5, 1]  
“b”: [0, 1, 1]  
“c”: [1, 0, 1]  
“d”: [0.2, 0, 1]  
“e”: [0, 0, 0.5]  
“f”: [0.8, 0.2, 1]  
“j”: [0, 0, 0.5]  
“k”: [0, 1, 1]  
“l”: [0, 1, 1]  
“m”: [0, 0, 1]  
“n”: [0.4, 1, 0.7]  
“o”: [0.2, 0.3, 1]  
“p”: [0.1, 1, 0.1]  
“q”: [0, 1, 1]  
“r”: [0, 1, 1]



# Neural Network Predicting with Regression

“a”: [0.1, 0.5, 1]  
“b”: [0, 1, 1]  
“c”: [1, 0, 1]  
“d”: [0.2, 0, 1]  
“e”: [0, 0, 0.5]  
“f”: [0.8, 0.2, 1]  
“g”: [0.9, 0.3, 0]  
“h”: [0.4, 1, 0.7]  
“i”: [0.2, 0.3, 1]  
“j”: [0.1, 0.1, 0.1]  
“k”: [0, 1, 1]  
“l”: [0, 1, 1]  
“m”: [0, 0, 1]  
“n”: [0.4, 1, 0.7]  
“o”: [0.2, 0.3, 1]  
“p”: [0.1, 1, 0.1]  
“q”: [0, 1, 1]  
“r”: [0, 1, 1]



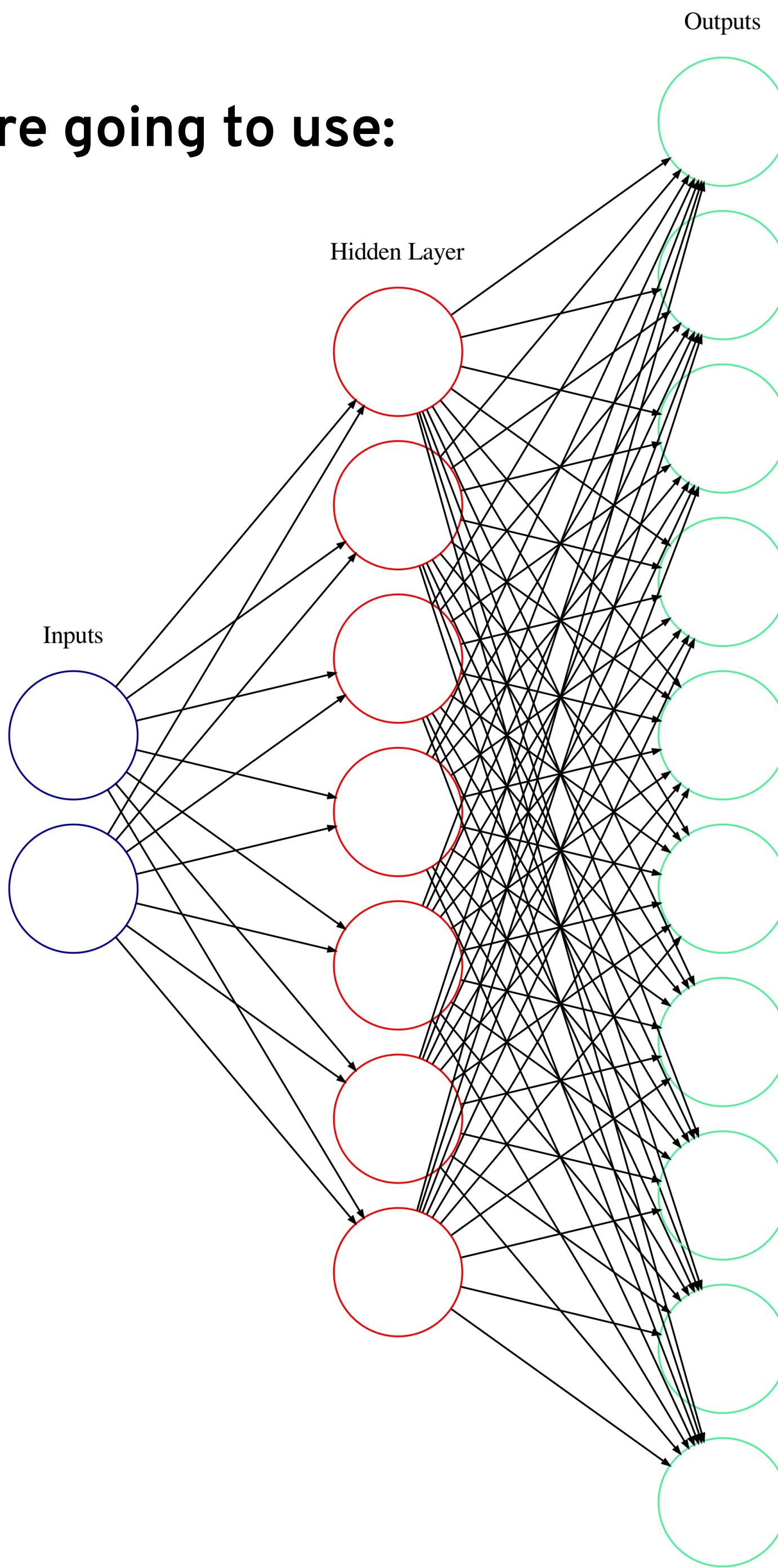
[0.5, 0.7]  
[0.1, 0.1]  
[0.5, 0.6]  
[0.3, 0.9]  
[0.4, 0]  
[0.2, 0.7]  
[0.5, 0.6]  
[0.5, 0.7]  
[0.1, 0.1]  
[0.5, 0.6]  
[0.2, 0.7]  
[0.6, 0.1]  
[0.5, 0.3]  
[0.5, 0.7]  
[0.1, 0.8]  
[0.5, 0.1]  
[0.4, 0.2]  
[0.1, 0.8]

## Structure of the neural network we're going to use:

2 inputs

1 hidden layer of 7 nodes

10 outputs



*fluid.ml/pregressor~*

coding

