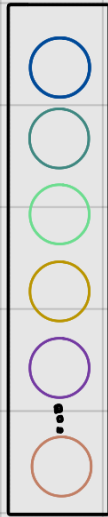# Convolutional Layer

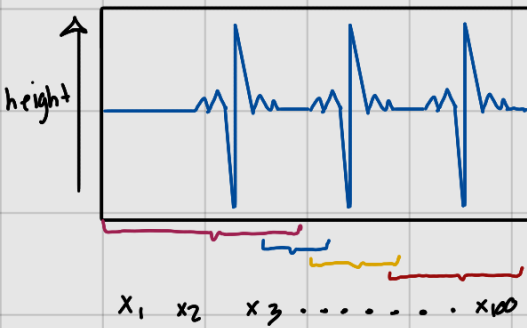9 units

Each neuron only looks at part of the previous layer's outputs

Why?

- Faster computation
- Need less training data (less prone to overfitting)

Convolutional Neural Network

EKG

height

x_1 x_2 x_3 . . . . x_{100}

$x_1 - x_{20}$

$x_{11} - x_{30}$

$x_{21} - x_{40}$

$x_{81} - x_{100}$

$\vec{x}$

Convolutional layer

$a_1^{[1]} - a_5^{[1]}$

$a^{[1]}$

$a_3^{[1]} - a_7^{[1]}$

$a_5^{[1]} - a_{[9]}^{[1]}$

9 units

$a^{[2]}$

3 units

$a^{[3]}$

sigmoid