Non-linear hypotheses

- Computer vision - section matrix of pixel intensities correspond to an image
  - Denote + and – for affirming if an image fits a classification
  - Would need nonlinear hypothesis
  - Feature vector x - pixel intensities in a column vector
- Example
  - Assume 50×50 pixel images - 2500 pixels
    - $n = 2500$ features
  - Quadratic features would mean $\sim$ 3 mil features
    - number of features = $50^2 + C(50^2, 2)$ as need all possible ways of 2 terms from features in addition to number of features present

Neural Networks

- Mimic brain
- Neural rewiring - parts of brain learn other tasks