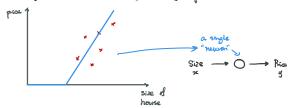
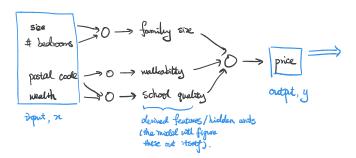
What is a neural notwork?

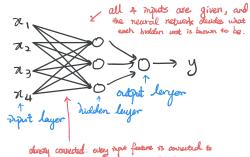
A single newson: a Relu function of input.



* each newson is an implementation of the function on the left graph (i.e. max of zero and the linear function), which is also call Relu function. Relu: Recified Invar Unit:

A neural network: a stock of neurons.





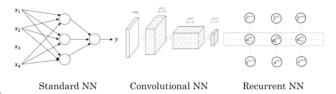
objectly connected: every input feature is connected to every one of these hidden writs

Superised learning with neural network.

clever choice of 2 and y Supervised Learning

Euperviseu Be	overte valueble applications.	
Input(x)	Output (y)	Application
Home features	Price	Real Estate Stude
Ad, user info	Click on ad? (0/1)	Online Advertising
Image	Object (1,,1000)	Photo tagging 3 CNN
Audio one - dimensional	Text transcript	Speech recognition \ KNN
Audio Sequena data	Chinese	Machine translation
Imaga, Radar info	Positio other cars	Autonomous driving

Neural Network examples



ordering of these also not well defined in the small training sets regime, e.s. sum could also better depending on the honolelling of alexails > lenge amount of clata and big enough NN medium NN - Small NN Traditional learning algo (e.g. SVM, regression...) amount of data, m slubeled eleter (x, y) digitalization of society

4 The development of algorithm also help NN to non truth footen, e.g. changing activation function from signatul-to help goodiert descent to now much footen