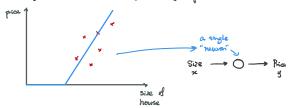
## What is a neural notwork?

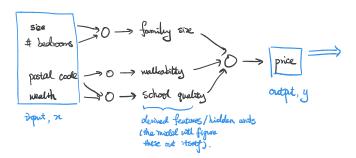
A single newson: a Relu function of input.

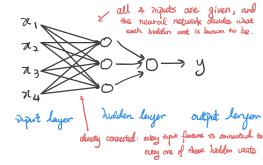


\* each newson is an implementation of the function on the left graph (i.e. max of zero and the lonear function), which is also call Relu function.

Relu: Recified linear Unit:

A neural naturale: a stock of neurons.





## Superised learning with neural network.

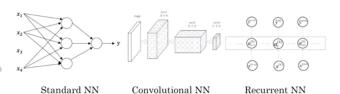
## Supervised Learning

clover choice of ze and y

Can one-de valuable applications

Input(x)	Output (y)	Application
Home features	Price	Real Estate Stull
Ad, user info	Click on ad? (0/1)	Online Advertising
Image	Object (1,,1000)	Photo tagging & CNN
Audio one-dimensional	Text transcript	Speech recognition } knn
English Sequence data	Chinese	Machine translation
Imago. Radar info	Positio other cars	Autonomous driving & Coulon
	L .	

## Neural Network examples



Scale drives deep learning process

ordering of these also not well defined lenge NN lenge amount of alata in the small training sets regime, lenge amount of alata e.s. sum could do better medium NN and big enough NN depends on the herolettis small NN

Trackthood learning also (e.g. SVM, regression...)

digitalization of society amount of data, m slabeled details, y)

\* The development of algorithm also help AN to non much factor, es. changing activation from significant to Relute