

Introduction Machine Learning

Machine Learning definition

- Tom Mitchell (1998) Well-posed Learning Problem: A computer program is said to *learn* from experience E with respect to some task T and some performance measure P , if its performance on T , as measured by P , improves with experience E .

Living in a data flooded world

programma om te weten of duim naar beneden of naar boven is

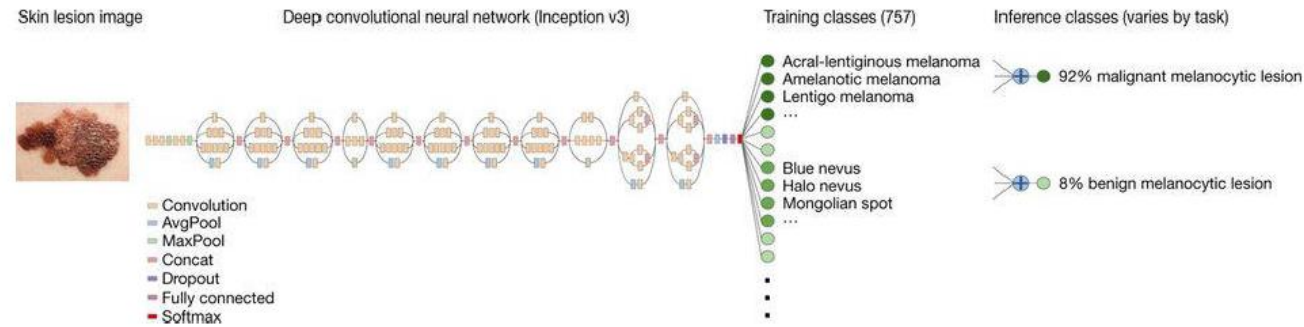


<https://teachablemachine.withgoogle.com/>

Living in a data flooded world

Dermatologist-level classification of skin cancer with deep neural networks

Andre Esteva^{1*}, Brett Kuprel^{1*}, Roberto A. Novoa^{2,3}, Justin Ko², Susan M. Swetter^{2,4}, Helen M. Blau⁵ & Sebastian Thrun⁶



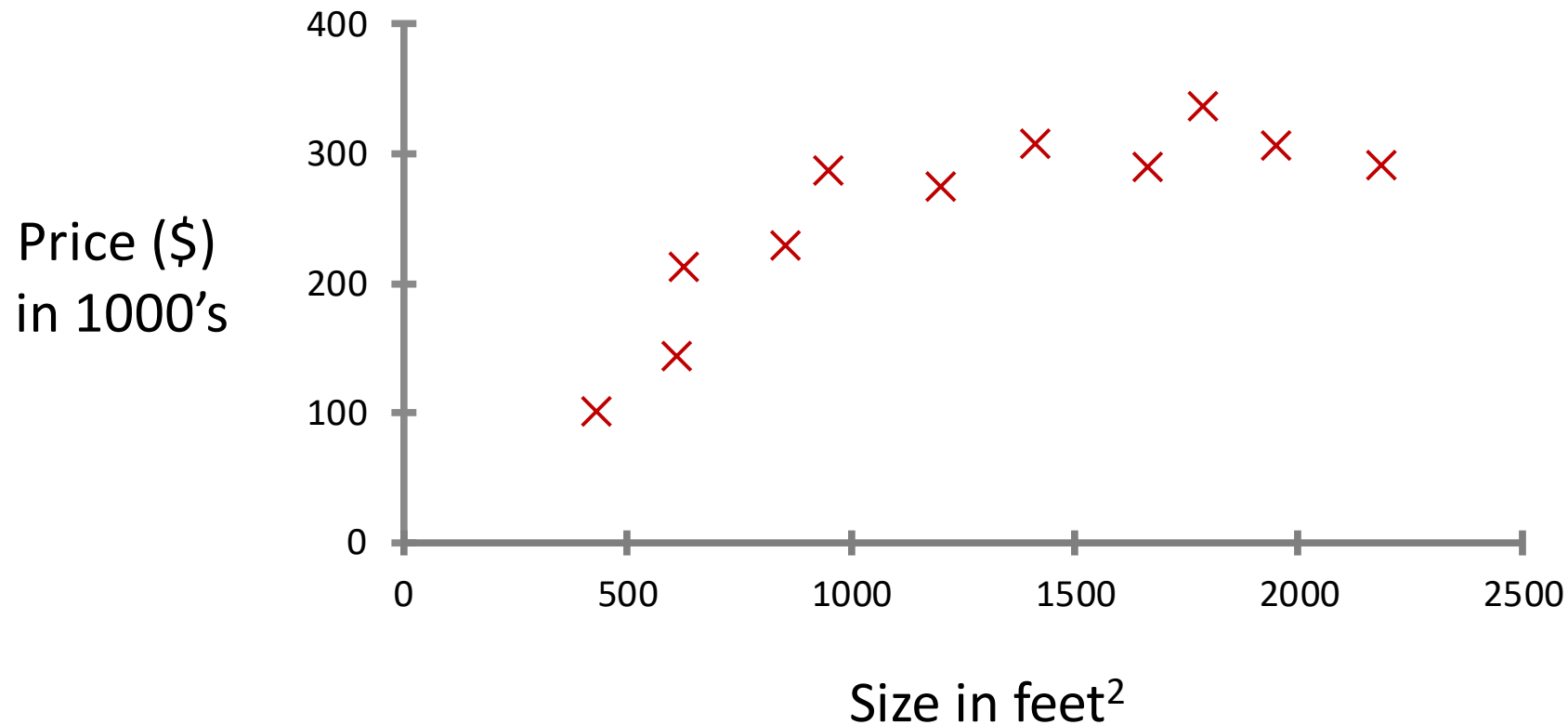
<https://www.nature.com/articles/nature21056.epdf>

Machine learning algorithms:

- Supervised learning
- Unsupervised learning

Others: recommender systems.
gaat niet behandeld worden

Supervised: Housing price prediction.

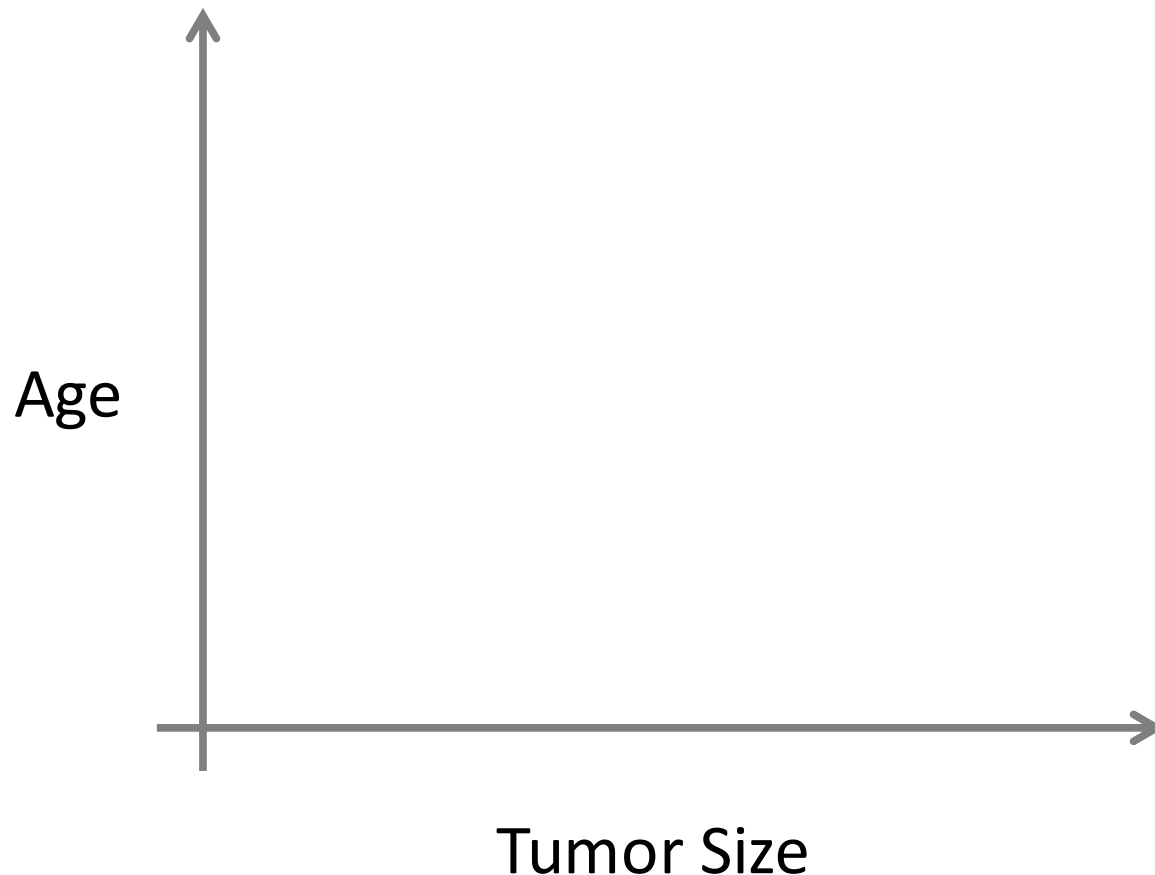


Supervised Learning

“right answers” given

Regression: Predict continuous
valued output (price)

Supervised: Breast cancer (malignant, benign)



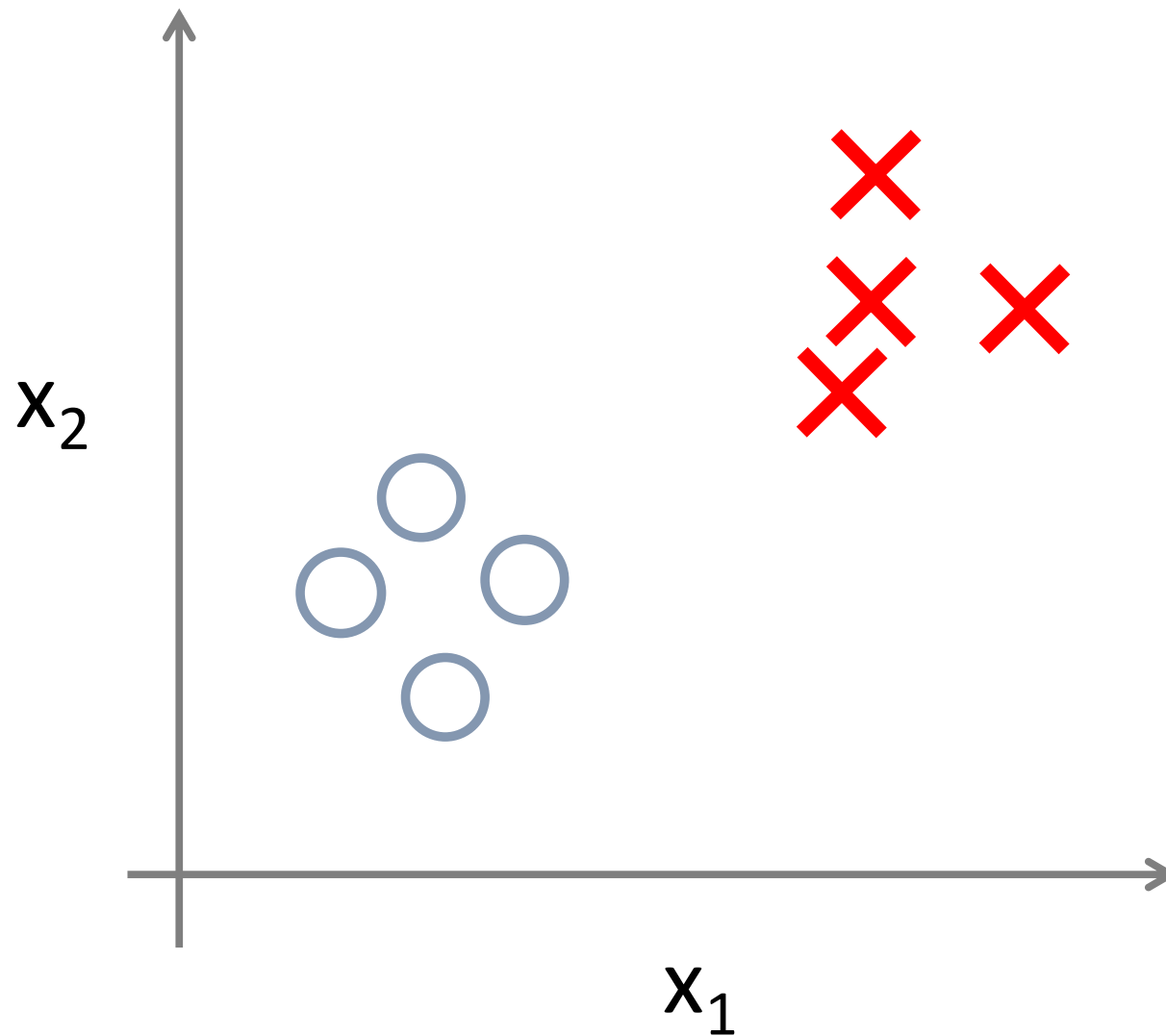
extra mogelijke features (kenmerken)

- Clump Thickness
- Uniformity of Cell Size
- Uniformity of Cell Shape

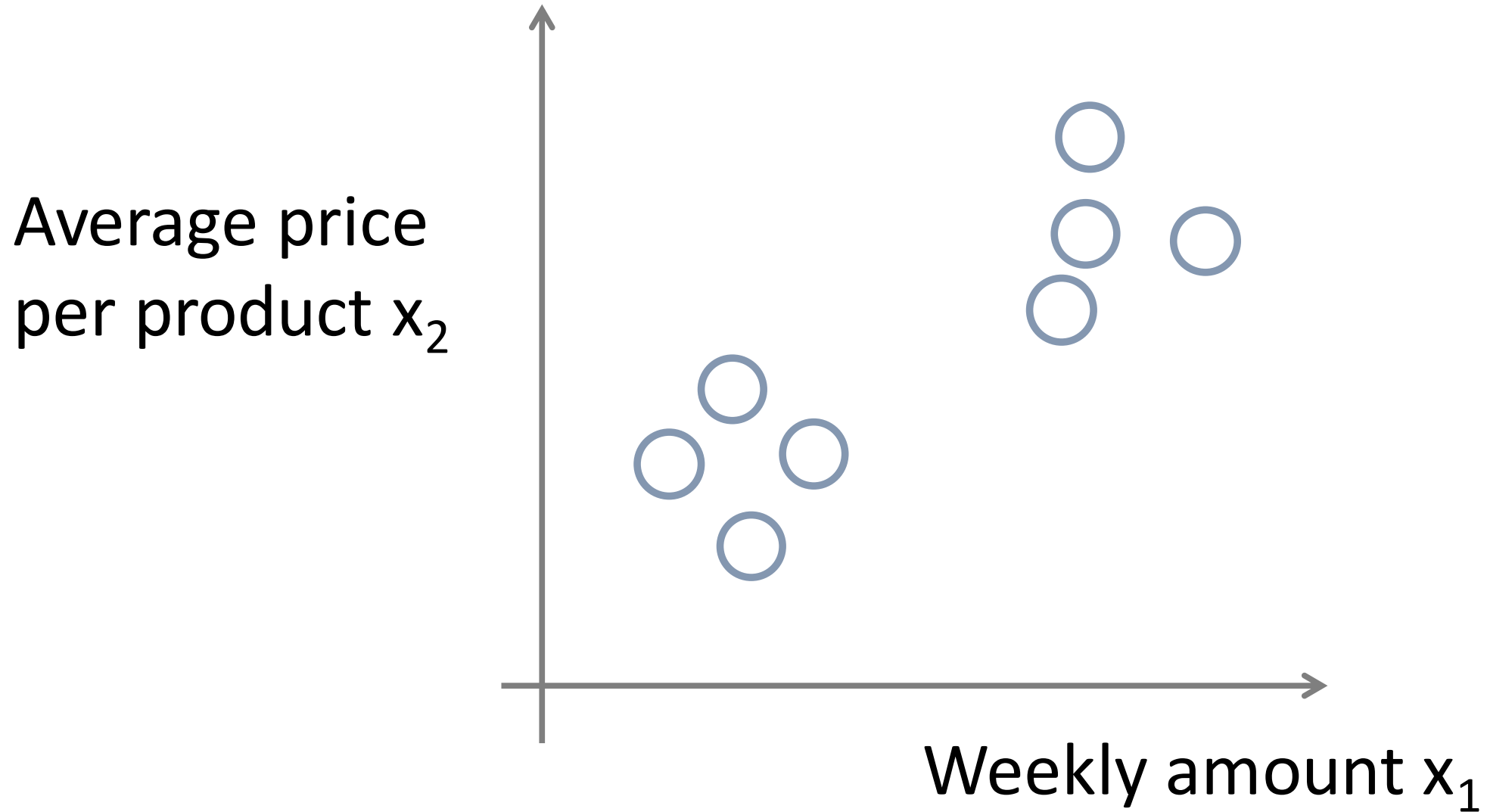
... Classification

Discrete valued
output (0 or 1)

Supervised Learning



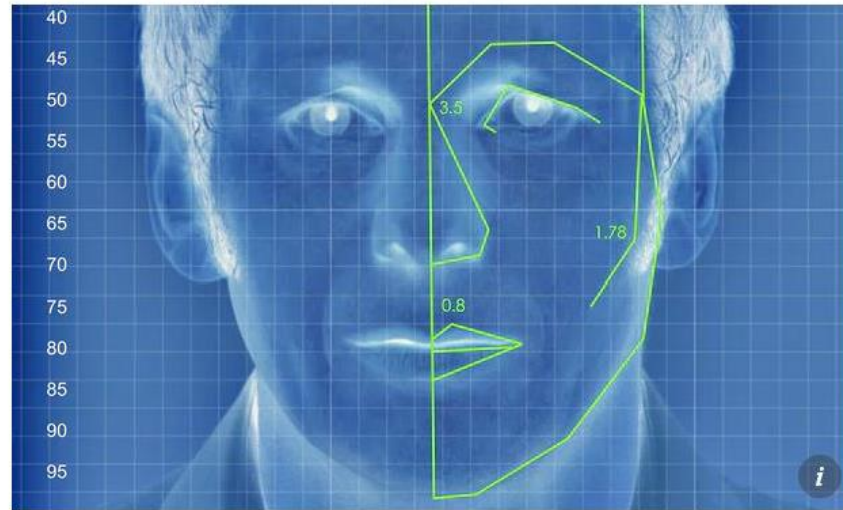
Unsupervised: customer profile



Living in a data flooded world

New AI can guess whether you're gay or straight from a photograph

An algorithm deduced the sexuality of people on a dating site with up to 91% accuracy, raising tricky ethical questions



<https://www.theguardian.com/technology/2017/sep/07/new-artificial-intelligence-can-tell-whether-youre-gay-or-straight-from-a-photograph>



How Vector Space Mathematics Reveals the Hidden Sexism in Language

