

BOT or NOT?

Das was, weshalb und wie des Maschinellen Lernens

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@lambdaTotoro (@chaos.social)

Small Talk in Intelligent Systems

Mein Studium:
„Intelligente Systeme“.

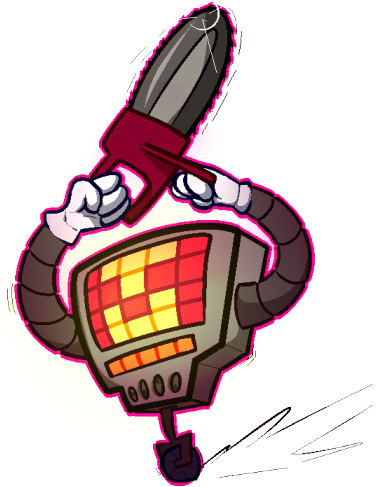
Was war wohl die häufigste
Frage an meinen Studiengang?

Small Talk in Intelligent Systems

Mein Studium:
„Intelligente Systeme“.

Was war wohl die häufigste
Frage an meinen Studiengang?

„Na, wie lange dauert
es noch bis zur
Roboterapokalypse?“



amazon

The Amazon logo, featuring the word "amazon" in a bold, black, sans-serif font. Below the text is a curved orange arrow that starts under the 'a' and points towards the 'n', resembling a smile.

amazon

The Amazon logo, consisting of a thick orange curved arrow pointing from the letter 'a' to the letter 'z'.



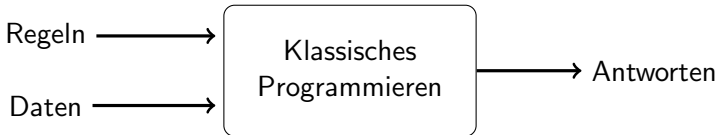
Warum überhaupt
Maschinelles Lernen?

Das Problem ist zu schwierig für
eine einzelne Person. Ich werde
mein Elektronengehirn
befragen.





Verschiedene Welten (1)



Verschiedene Welten (2)



Select all squares with street signs.

Report a problem

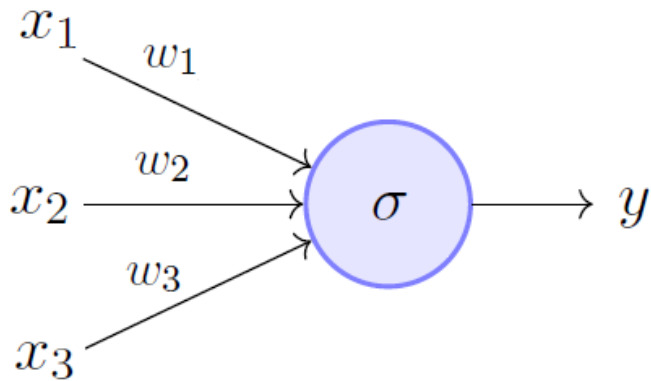
Verify

The image shows a 4x4 grid of 16 small images. The images are a street scene with a green truck and a street sign. The street sign is green with white text and a white arrow pointing right. The text on the sign is 'Main Street' and 'Department of City Planning'. The truck is green and has 'DEPARTMENT OF CITY PLANNING' written on its side. The background shows a street with a fence and trees.

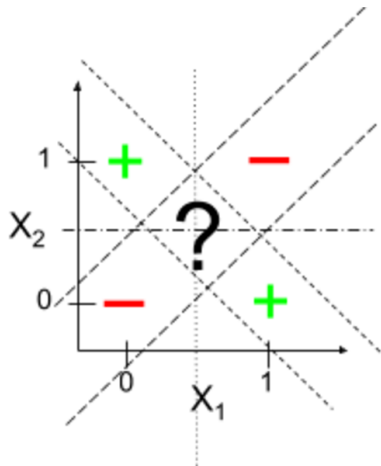
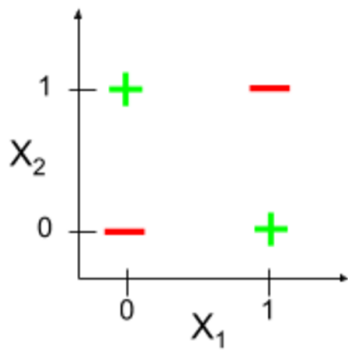
Wie funktioniert
Maschinelles Lernen?

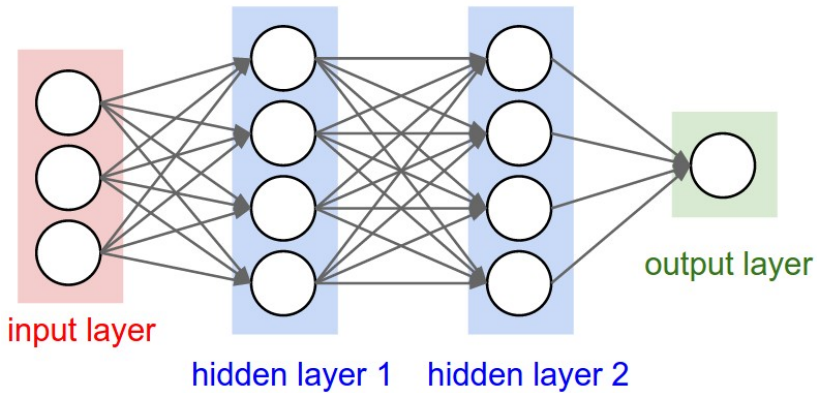
Imitation - Mehr als nur Anerkennung!





Artificial Neuron







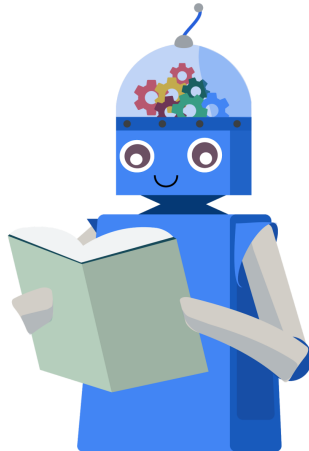
**FIRE TOGETHER
=
WIRE TOGETHER**

Was ist einfach?

Generell gilt: Je ...

- übersichtlicher
- mehr Daten
- weniger Rückfragen

...desto gut! Aber es gibt ein paar beliebte Fallen!



Nichts ist wie es scheint!

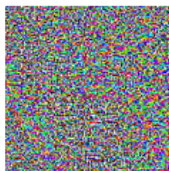


x

“panda”

57.7% confidence

$+ .007 \times$



$\text{sign}(\nabla_x J(\theta, x, y))$

“nematode”

8.2% confidence

$=$



$x +$

$\epsilon \text{sign}(\nabla_x J(\theta, x, y))$

“gibbon”

99.3 % confidence

Nichts ist wie es scheint!

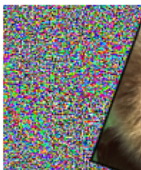


x

“panda”

57.7% confidence

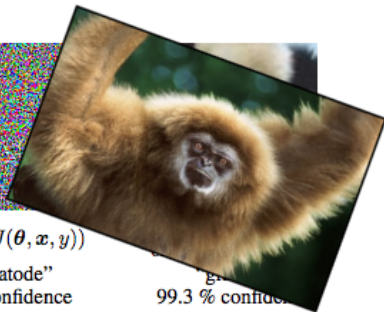
+ .007 ×



$\text{sign}(\nabla_x J(\theta, x, y))$

“nematode”

8.2% confidence



99.3 % confidence

Was wird gelernt?



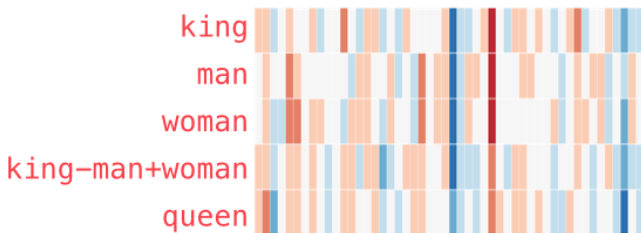
Bot or Not?

Wie kommen wir
vom Lernen zum Gedicht?

word2vec

“You shall know a word by the company it keeps”
– J.R. Firth

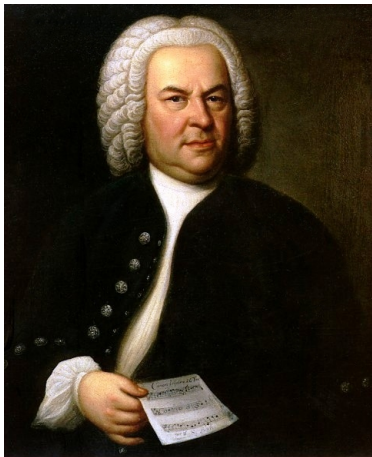
king - man + woman \approx queen

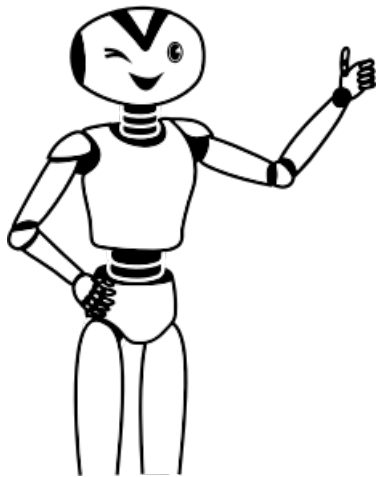


word2vec + Tensorflow = ???



Computerkunst





Vielen Dank
für's
Zuhören!