

# Using deep learning and R to generate offensive license plates



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# I have been JEALOUS 🙄

## Computer Learns To Create Its Own Pokémon, And They're Great



Luke Plunkett

4/03/17 7:00pm • Filed to: POKEMON ▾

94.4K

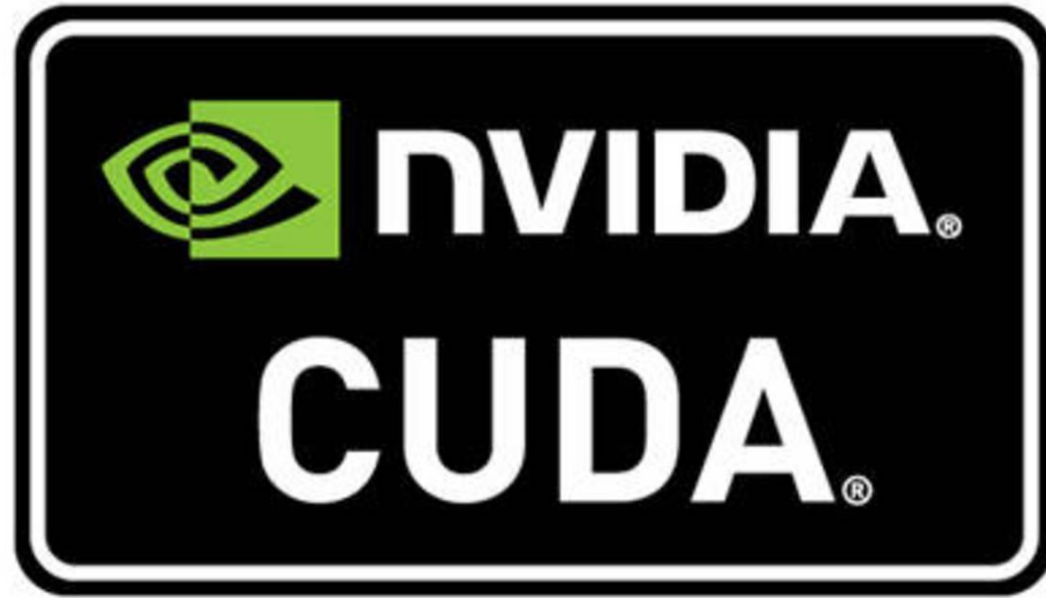
84

26



# Deep learning seemed insurmountable

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?

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?

?

Until...

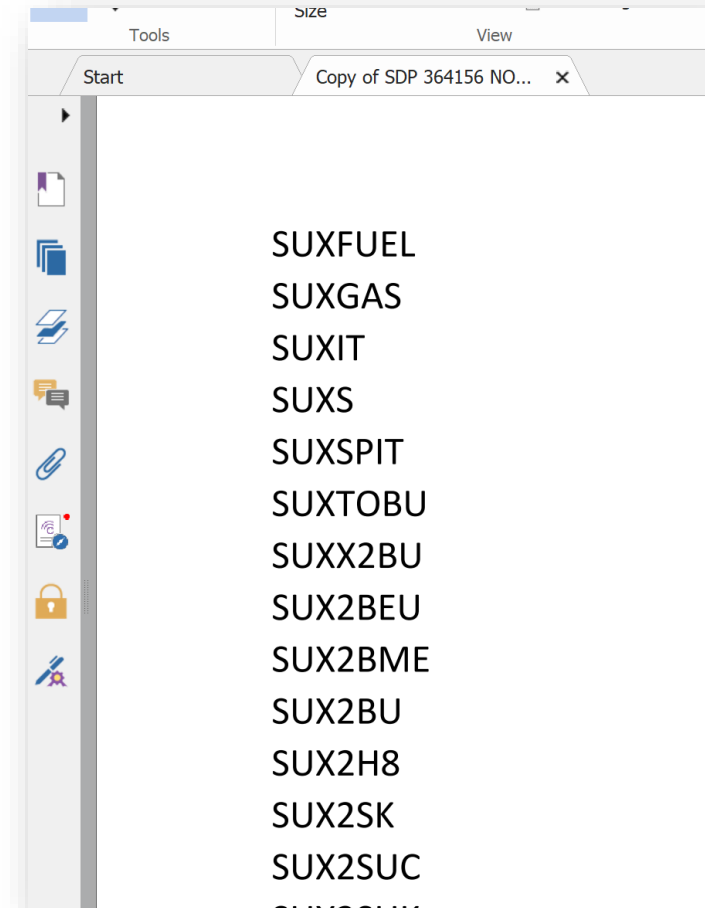
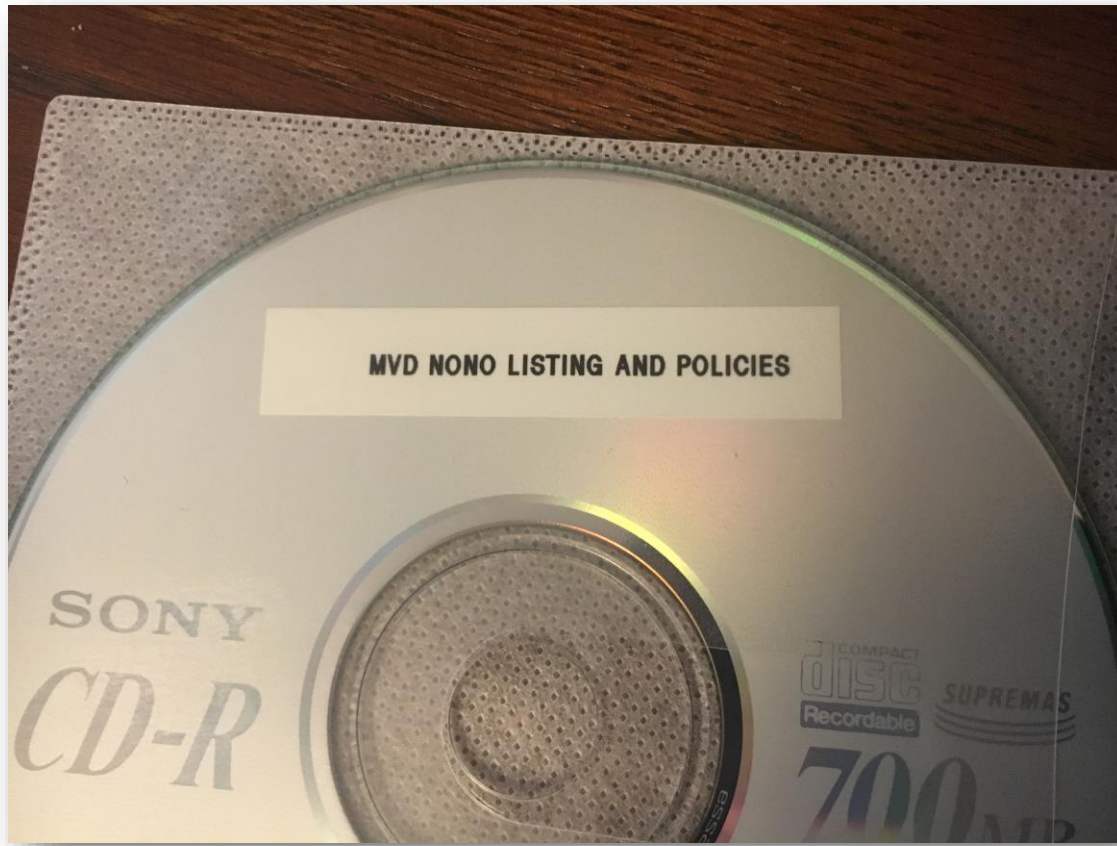




**Arizona's List of Rejected Custom  
License Plates Will Make You Lose Faith  
in Humanity**



# I DEMANDED the data (FOIA request)



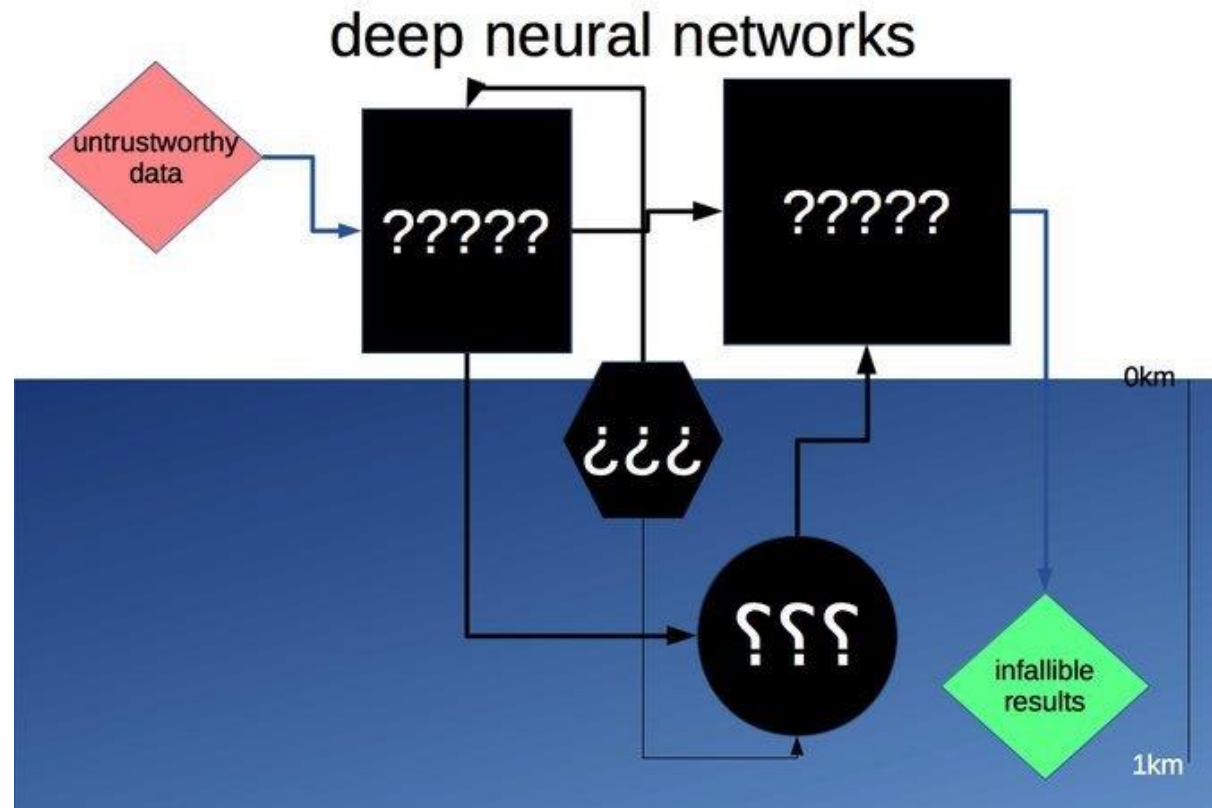
Deep learning: same 'ol  $Y \sim X$

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \end{bmatrix} \sim \begin{bmatrix} x_{11} & x_{12} & x_{13} \\ x_{21} & x_{22} & x_{23} \\ x_{31} & x_{32} & x_{33} \end{bmatrix}$$

Rstudio →

$$\begin{bmatrix} r & s & t \\ s & t & u \\ t & u & d \end{bmatrix} \sim \begin{bmatrix} u \\ d \\ i \end{bmatrix}$$

# Pull example from RStudio website



Source: unknown



# Predict next letter: iterate model

Current PLATE: EXAM

| Next Letter | Probability |
|-------------|-------------|
| A           | 0.1         |
| B           | 0.02        |
| ...         | ...         |
| P           | 0.5         |
| ...         | ...         |
| Z           | 0.001       |
| *           | 0.2         |

# It works!!



# Conclusion: Do whatever motivates you!

*Any project that you learn from is worthwhile*



Learning this...



# T-Mobile



...taught me a foundation of  
what we use here



# Thank you!

<http://bit.ly/offensive-deep-learning>

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