321Code!

Autonome Autos. Lächeln für Orwell. Ritter der Kokosnuss?!

Morressier

Programmiersprachen

IEEE SPECTRUM

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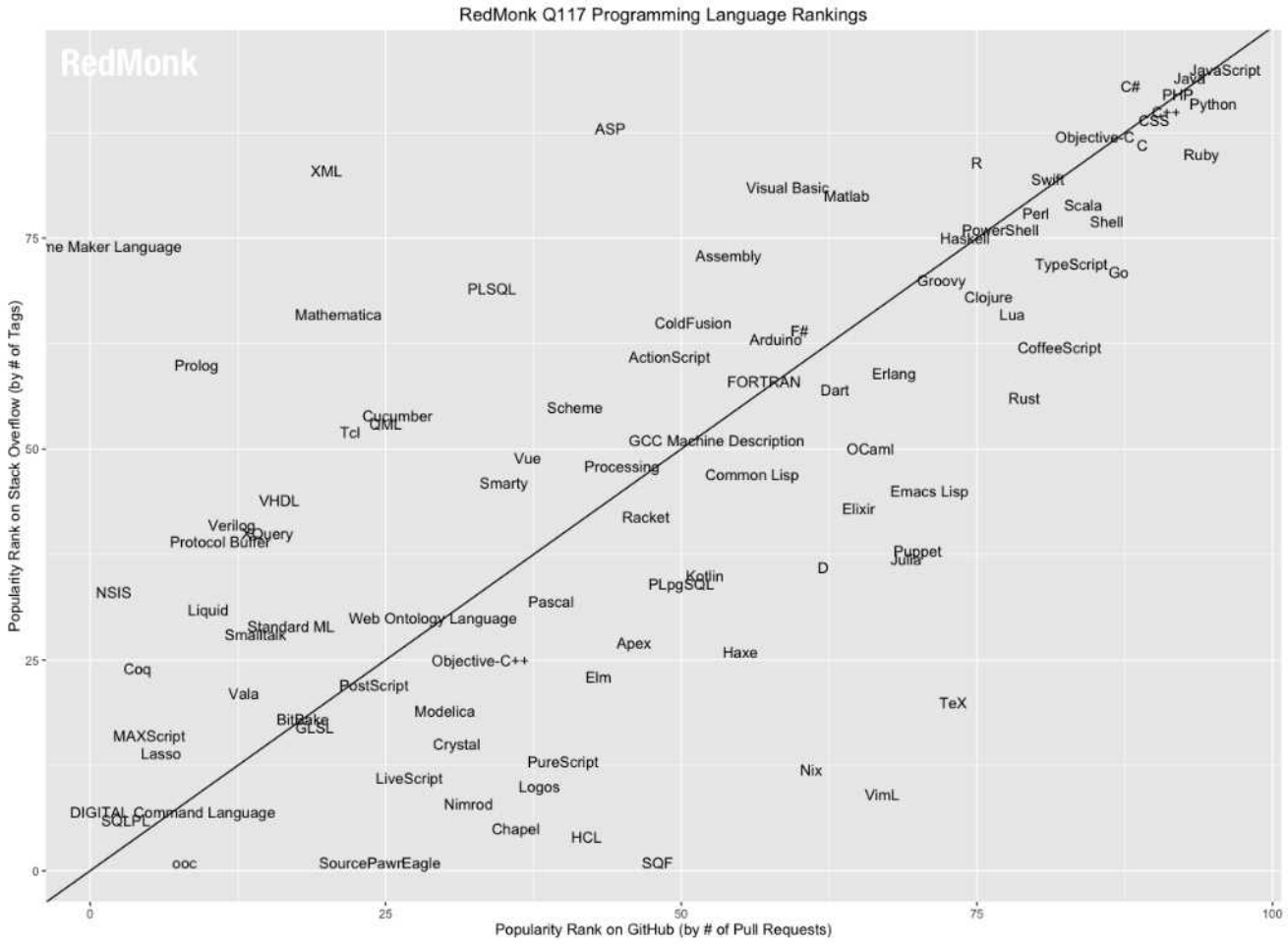
Interactive: The Top Progra Languages 2017

Interactive: The Top Programming Language

Language Types (click to hide)

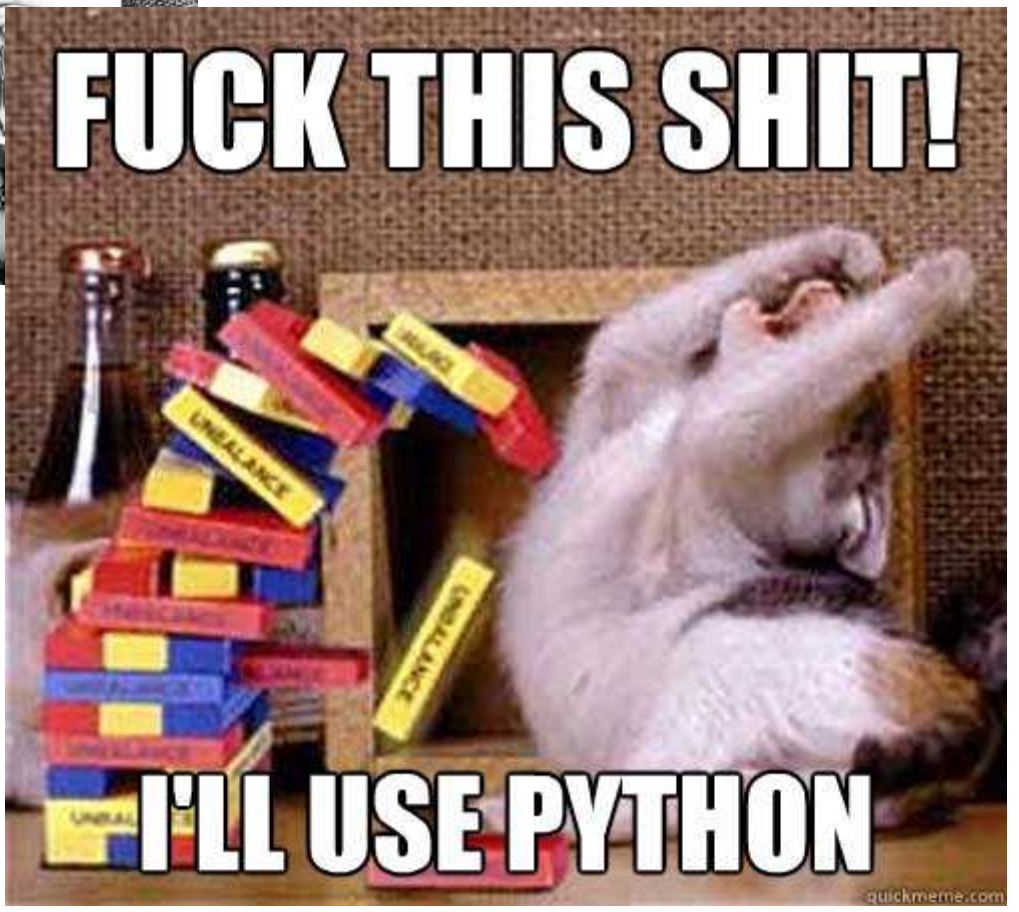
Web | Mobile | Enterprise | Embedde

Language Rank	Types	Spectrum Rank
1. Python		100.0
2. C		99.7
3. Java		99.4
4. C++		97.2
5. C#		88.6
6. R		88.1
7. JavaScript		85.5
8. PHP		81.4



https://spectrum.ieee.org/static/interactive-the-top-programming-languages-2017
https://redmonk.com/sogrady/2017/06/08/language-rankings-6-17/

Programmiersprachen



3 Folien Python 0/3

```
$python3↲
Python 3.6.1 (default, Mar 27 2017, 00:27:06)
[GCC 6.3.1 20170306] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

```
$python3 file.py↲
```

3 Folien Python 1/3

```
>>> # Funktionen
>>> def add(a, b):
...     return a + b
...
>>> add(2, 3)
5


>>> # Variablen
>>> fünf = add(2, 3)
>>> print(fünf)
5
>>> zwei, drei = 2, 3
>>> add(zwei, drei)
5
```

```
>>> # Zeichenketten (Strings)
>>> titel = '321Code!'
>>> print(titel)
321Code!
>>> titel.lower()
'321code!'
>>> titel.upper()
'321CODE!'
>>> titel.replace('321', '123')
'123Code!'
>>> titel * 2
'321Code!321Code!'
>>> len(titel)
8
```

3 Folien Python 2/3

```
>>> # Listen
>>> liste = [3, 2, 1]
>>> liste[2]
1
>>> print(liste)
[3, 2, 1]
>>> len(liste)
3
>>> liste.append('Code!')
>>> len(liste)
4

>>> # Tuple
>>> tuple = (3, 2, 1, 'Code!')
```

```
>>> # Kontrollstrukturen
>>> if len(liste) > 3:
...     print('Wahr')
... else:
...     print('Falsch')
...
Wahr
>>> if '3' in tuple:
...     print('Auch Wahr')
...
>>> if 3 in tuple:
...     print('Jetzt aber.')
...
Jetzt aber.
```

3 Folien Python 3/3

```
>>> # Schleifen
>>> for i in liste:
...     print(i)
...
3
2
1
Code!
>>> a = 5
>>> while a >= 0:
...     print(a)
...     a = a - 1
...
5
4
3
2
1
0
```

Coding Session

3 Folien Python 4/3

```
# Python
https://py-tutorial-de.readthedocs.io/de/python-3.3/                [DE]
https://docs.python.org/3/tutorial/                                 [EN]

# OpenCV
http://docs.opencv.org/3.3.0/d6/d00/tutorial_py_root.html           [EN]
http://docs.opencv.org/3.3.0/                                       [EN]
http://opencv-python-tutroals.readthedocs.io                        [EN]
```

Terrorabwehr

Polizei testet Gesichtserkennung an Berliner Bahnhof

Können Computer mit Kameras zuverlässig erkennen, wer bloß Passant und wer ein bekannter Gewalttäter ist? Ein Test in Berlin soll dies zeigen. Hunderte Freiwilliger machen mit.

VIDEOÜBERWACHUNG

Merkel erwartet Gesichtserkennung an allen Bahnhöfen

In einer Diskussionsrunde in Stuttgart hat sich Kanzlerin Angela Merkel ausführlich zur Digitalisierung geäußert. Dabei ging es neben der Überwachung auch wieder um die Programmierausbildung in der Schule. Aber sie will *"kein*

Jedes Überwachungsvideo,

das Gewalt zeigt, ist ein Beweis,
dass Videoüberwachung Ihnen
keine Sicherheit bringt.

http://www.spiegel.de/netzwelt/netzpolitik/gesichtserkennung-test-am-berliner-suedkreuz-beginnt-am-1-august-a-1160079.html
https://www.golem.de/news/videoueberwachung-merkel-erwartet-gesichtserkennung-an-allen-bahnhoefen-1709-129942.html
https://digitalcourage.de/blog/2017/kamera-laeuft-bitte-laecheln

Autonome Autos

Autonome XXXX

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First Zero-Emission, Fully-Autono Container Ship Planned for 2020

May 9, 2017 by Mike Schuler

Manned operation is planned to start in the latter half of 2018, with remote-operation begir autonomous operation starting in 2020. Credit: Yara/Kongsberg

Norwegian fertilizer producer Yara and maritime technology firm Kongsberg Gru what they say will be the world's first fully-electric and autonomous container fee

"The new zero-emission vessel will be a game-changer for global maritime trans the United Nations sustainability goals," the companies said on Tuesday.

♪ MUTE | MEM

DEUTSCHLAND

Here's how Tesla, Uber, and Google are trying to revolutionize the trucking industry

BI Danielle Muoio, Business Insider
20.06.2017, 15:07 619

FACEBOOK LINKEDIN TWITTER EMAIL PRINT

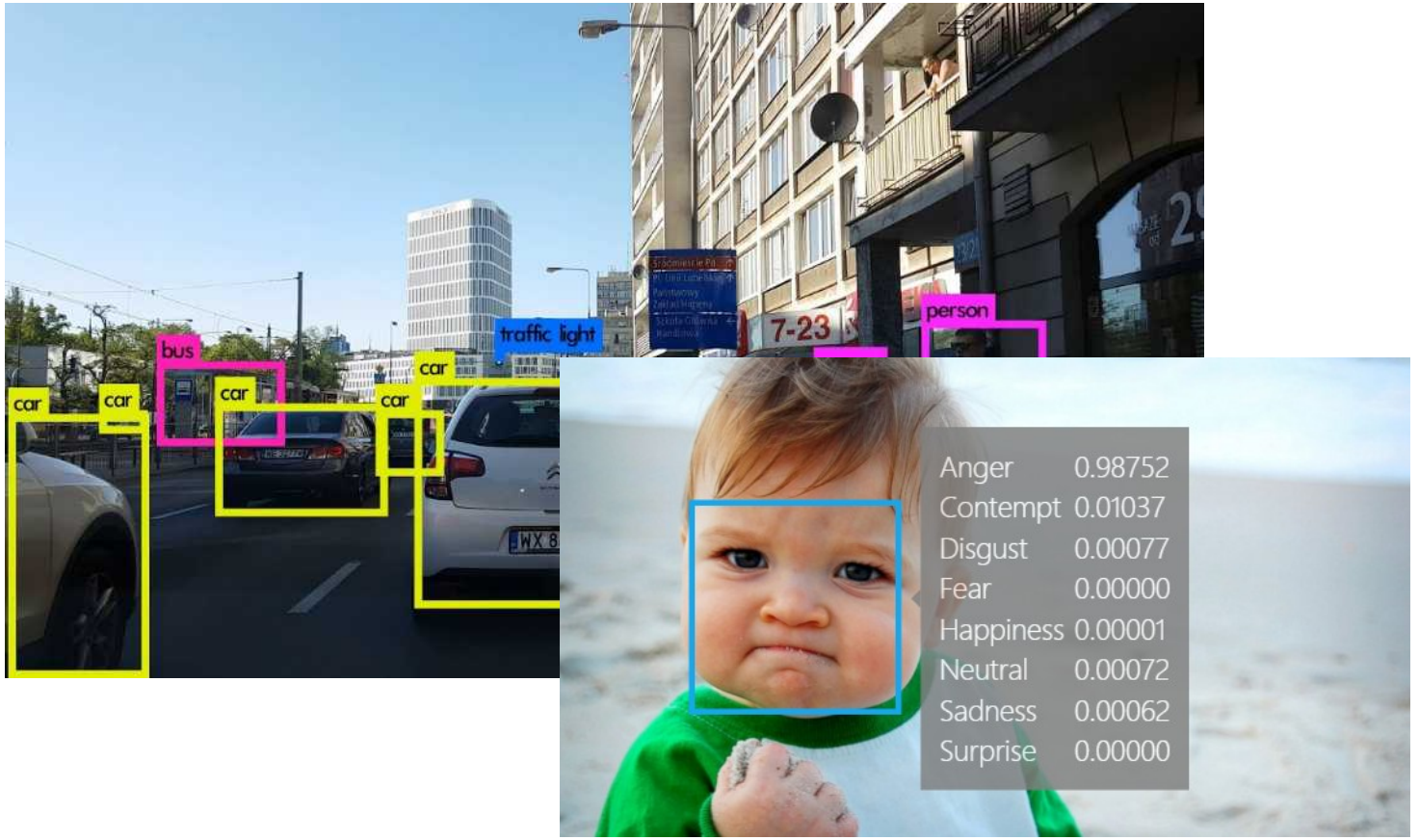
Daimler, the parent company of Mercedes, tests its autonomous big-rig on a highway. Daimler

Silicon Valley has its sights set on the trucking industry, and for good reason.

Every time we receive a package of randomly assorted Amazon items, it was likely delivered on the back of a massive big-rig driven by one of 1.7 million truck drivers in the US. It's important, and grueling, work that was thrown into national focus for a brief moment when President Donald Trump climbed into an

http://www.businessinsider.de/autonomous-trucks-tesla-uber-google-2017-6?r=US&IR=T
http://gcaptain.com/worlds-first-zero-emission-fully-autonomous-ship-planned-for-2020/

Artificial Intelligence



In Medizin?

How AI and Machine Learning are Aiding Schizophr Research

July 21, 2017 | Written by: Dr. Guillermo Cecchi

Categorized: Artificial Intelligence | Machine Learning

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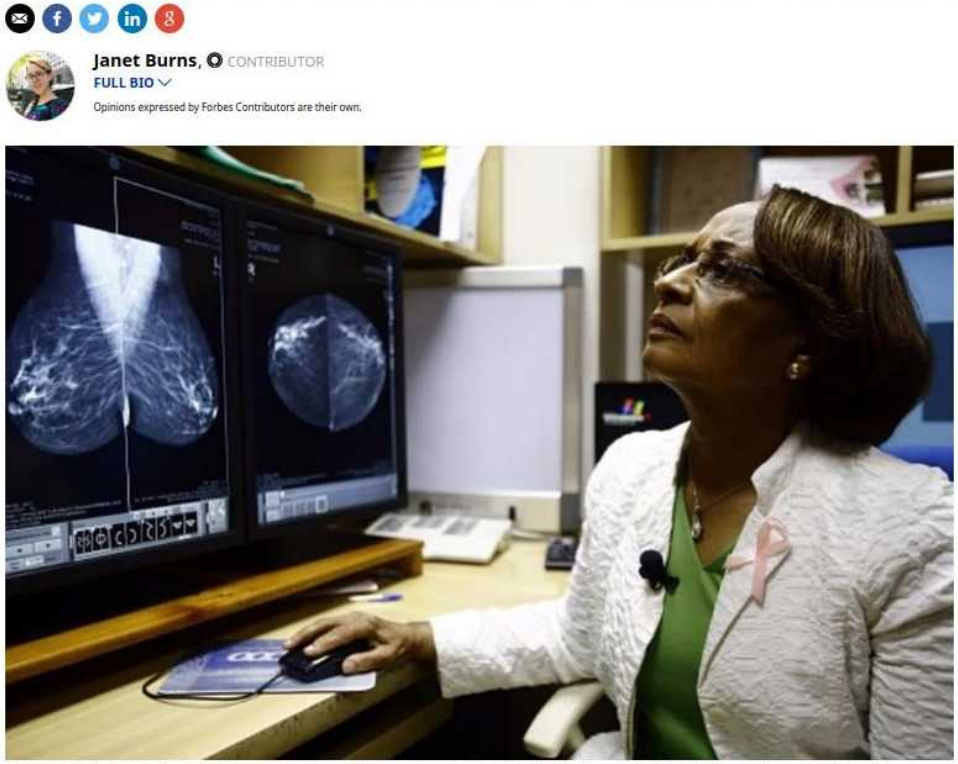
In the U.S. about 20 percent of adults suffer from a mental health
receive no treatment. While early identification, diagnosis, and tre
schizophrenia, there is no medical testing that can provide an ab

Earlier this year, IBM scientists collaborated with researchers at t
for Advanced Studies (CAS) to publish new research regarding tl
predict instances of schizophrenia with a 74 percent accuracy. Th
the severity of specific symptoms in schizophrenia patients – son
machine learning, 'computational psychiatry' can be used to help
– patients with schizophrenia.

Computational psychiatry provides physicians with tools that ena
approaches had been subjective up until that point. In this schizo

Artificial Intelligence Is Helping Doctors Find Breast Cancer Risk 30 Time



Janet Burns, CONTRIBUTOR
FULL BIO
Opinions expressed by Forbes Contributors are their own.

Sudanese radiologist Dr Hania Fadl speaks with reporters in 2015 at the Khartoum Breast Care Centre (KBCC), which she opened in 2010 and equipped with screening and anesthetic equipment despite financial advisers' warnings to abandon the project. (Photo credit Ashraf Shazly/AFP/Getty Images)

The mammogram is one of medical science's best tools for detecting breast cancer, but when the typically painful test reveals a potential problem, women frequently undergo breast biopsies for a closer look--a practice that's all too often unnecessary, according to a group of artificial intelligence (AI) researchers, and which doctors may be able to significantly reduce thanks to a little insight from computers.

Announced today, researchers from Houston Methodist have developed AI software that can interpret mammogram results a full 30 times quicker than doctors and with 99 percent accuracy, according to the team's recent study. Published in the journal *Cancer*, the study found that the software was able to intuitively translate patient charts into diagnostic information for human review at top speeds, which

https://www.ibm.com/blogs/think/2017/07/ai-schizophrenia-research/
https://www.forbes.com/sites/janetwburns/2016/08/29/artificial-intelligence-can-help-doctors-assess-breast-cancer-risk-thirty-times-faster/#77b5

In Creativity?

Artificial Intelligence

A New AI Can Write Music as Well as a Human Composer

IN BRIEF

- Aiva is an AI composer that create
  film directors, advertising agencie
- This brings up the question: Will A
  indistinguishable from the work o

ARTIFICIAL INTELLIGENCE AND CR

Artificial intelligence (AI) is set to bec
technology of the 21st century. But wha
about AI? Programs that can beat you
tasks with perfection? Or perhaps auto
replacing your job?

When we think about AI, we often look
replaced: high-level computation, mar
Yet, there is now a new wave of emerg
one of which happens to be musical co

Aiva Technologies is one of the leading
composition. It was founded just last y

AI Painter

See your photo turned into artwork in seconds!

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DAILY NEWS 29 June 2017

Artificially intelligent painters invent new styles of art

Art for the AI generation
Art and Artificial Intelligence Laboratory, Rutgers University

By Chris Baraniuk

Now and then, a painter like Claude Monet or Pablo Picasso comes along and turns the art world on its head. They invent new aesthetic styles, forging movements such as impressionism or abstract expressionism. But could the next

https://www.newscientist.com/article/2139184-artificially-intelligent-painters-invent-new-styles-of-art/
https://www.instapainting.com/ai-painter
https://futurism.com/a-new-ai-can-write-music-as-well-as-a-human-composer/

git.io/v5zNL

für Code und Presentation