

# 321Code!

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

Morressier



# Programmiersprachen



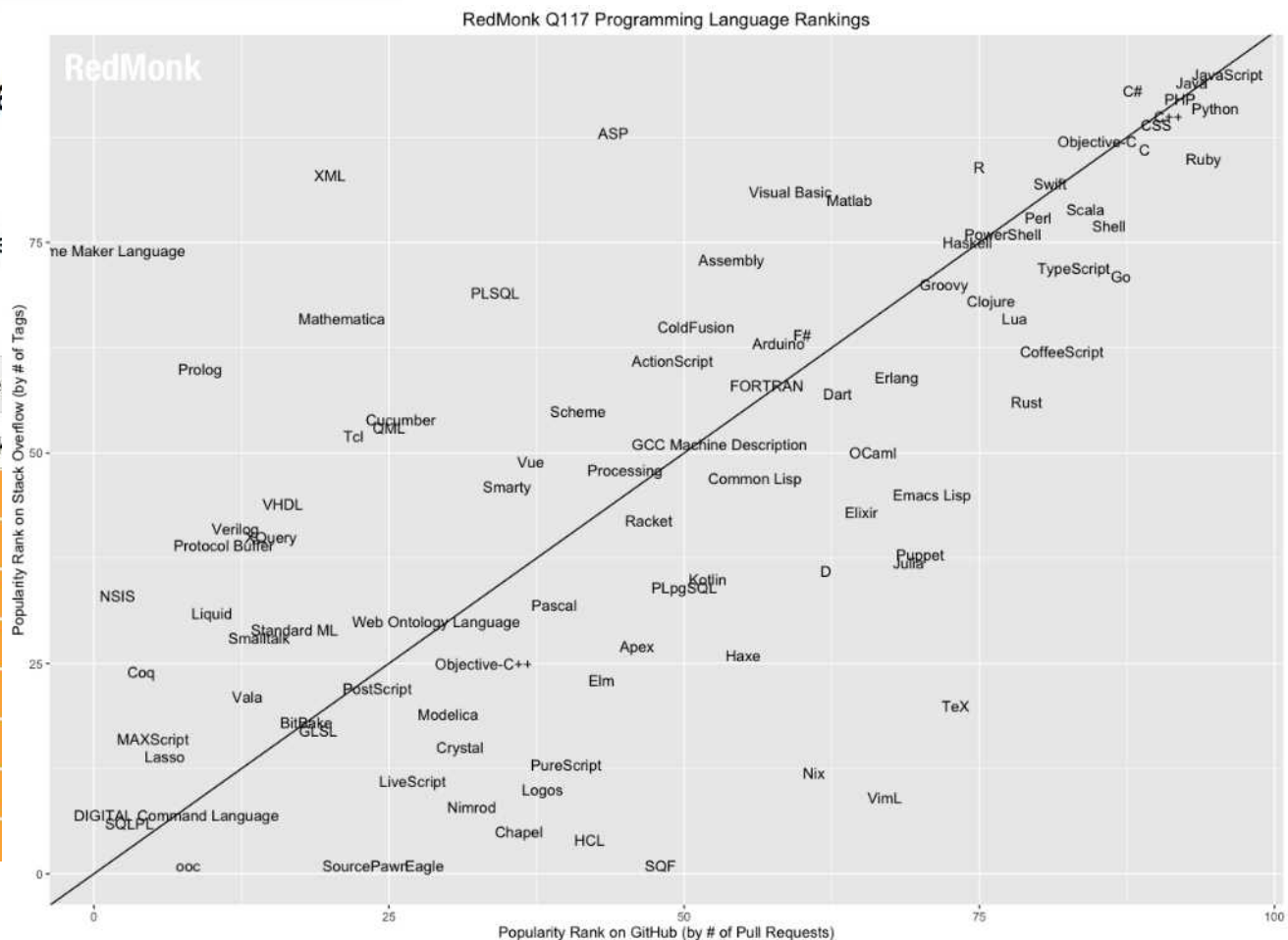
## Interactive: The Top Programming Languages 2017

### Interactive: The Top Programming Language

#### Language Types (click to hide)



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





# 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

## The Hitchhiker's Guide to Python

This opinionated guide exists to provide both novice and expert Python developers a best practice handbook to the installation, configuration, and usage of Python on a daily basis.

### Get Updates

Receive updates on new releases and upcoming projects.



## Installing Python 3 on Windows



### # Python

<http://docs.python-guide.org/en/latest/starting/install3/win/>  
<https://py-tutorial-de.readthedocs.io/de/python-3.3/>  
<https://docs.python.org/3/tutorial/>

[EN]

[DE]

[EN]

### # OpenCV

[http://docs.opencv.org/3.3.0/d6/d00/tutorial\\_py\\_root.html](http://docs.opencv.org/3.3.0/d6/d00/tutorial_py_root.html)  
<http://docs.opencv.org/3.3.0/>  
<http://opencv-python-tutroals.readthedocs.io>

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# So Are We Living in 1984?

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.

# Autonome XXXX



# Autonome XXXX



## First Zero-Emission, Fully-Autonomous 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 begin autonomous operation starting in 2020. Credit: Yara/Kongsberg

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

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

MUTE MEM

## 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

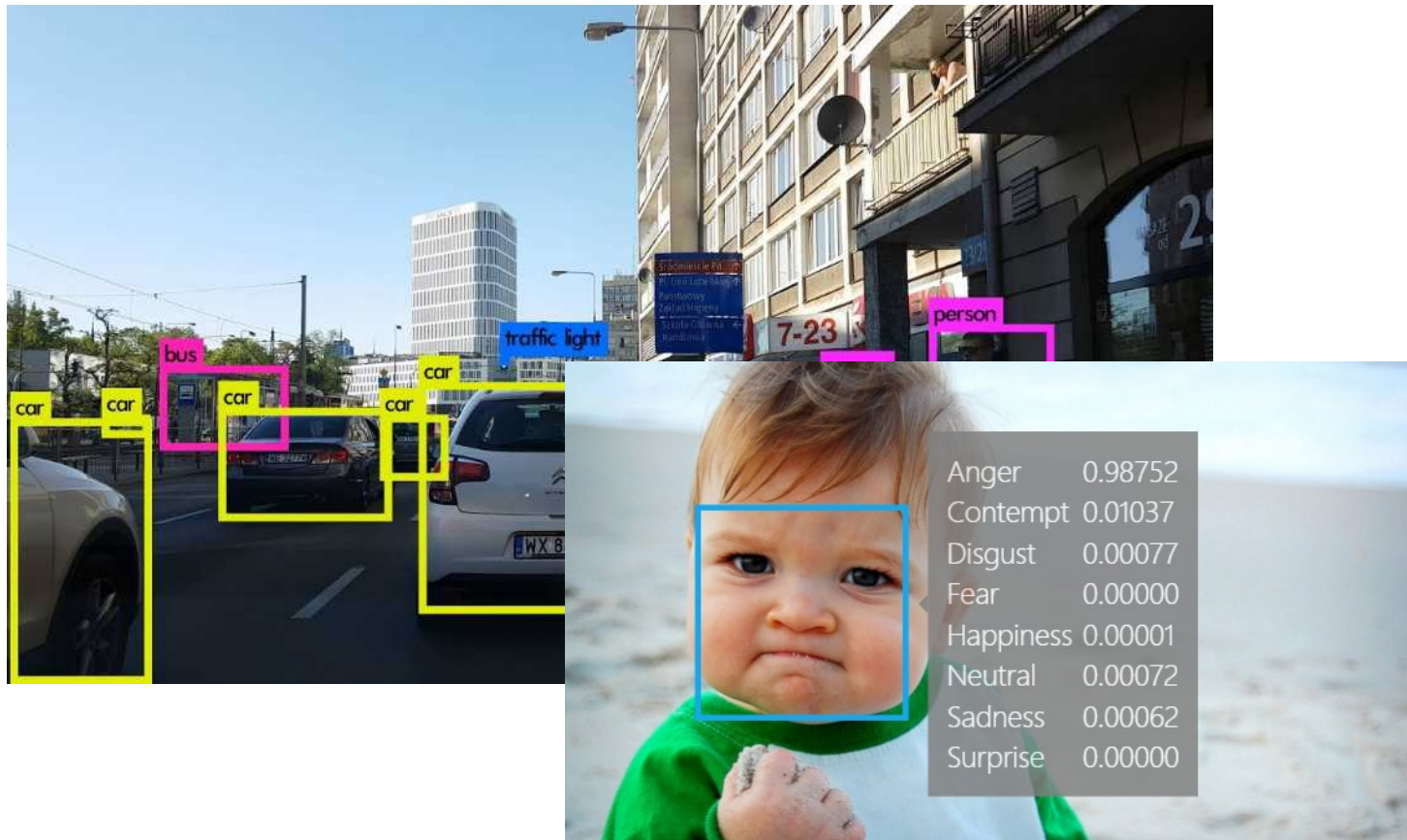
Silicon Valley has its sights set on the trucking industry, and for good reason.

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





# Artificial Intelligence



# In Medizin?

## How AI and Machine Learning are Aiding Schizophrenia Research

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

Categorized: Artificial Intelligence | Machine Learning

Share this post:



In the U.S. about 20 percent of adults suffer from a mental health condition, but only about 10 percent receive no treatment. While early identification, diagnosis, and treatment can improve outcomes for schizophrenia, there is no medical testing that can provide an absolute answer.

Earlier this year, IBM scientists collaborated with researchers at the University of California, San Diego (UCSD) to publish new research regarding the use of machine learning to predict instances of schizophrenia with a 74 percent accuracy. The study found that the severity of specific symptoms in schizophrenia patients – such as hallucinations and delusions – can be used to help predict the likelihood of a patient with schizophrenia.

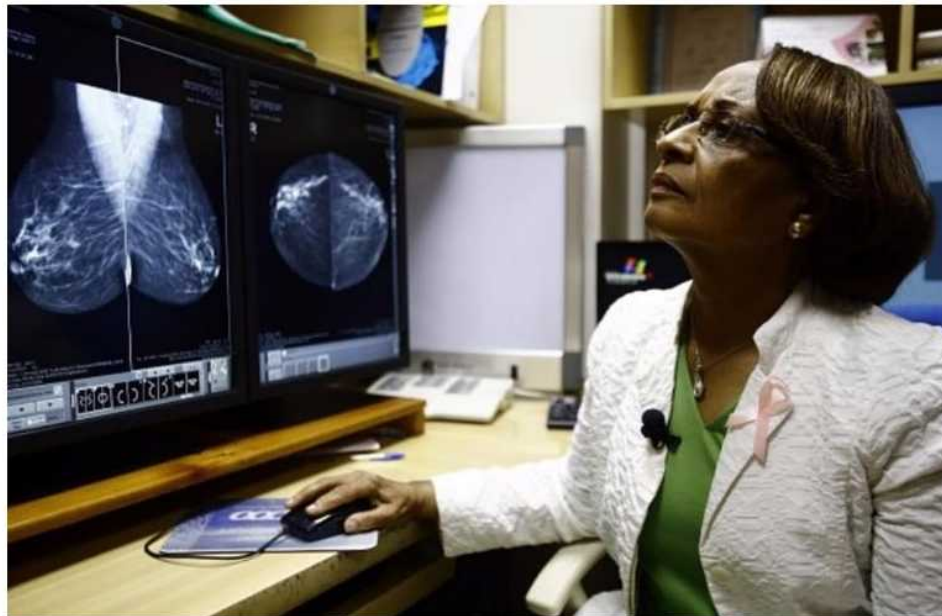
Computational psychiatry provides physicians with tools that enable them to make more accurate diagnoses than approaches had been subjective up until that point. In this schizophrenia research, IBM's machine learning algorithms were able to identify patterns in patient data that were not apparent to human reviewers.

## Artificial Intelligence Is Helping Doctors Find Breast Cancer Risk 30 Times Faster



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/#77b5d1e11000>



# In Creativity?

Artificial Intelligence

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

### IN BRIEF

- Aiva is an AI composer that creates music for film directors, advertising agencies, and more.
- This brings up the question: Will AI be indistinguishable from the work of a human composer?

### ARTIFICIAL INTELLIGENCE AND CREATIVITY

Artificial intelligence (AI) is set to become a key technology of the 21<sup>st</sup> century. But what about AI? Programs that can **beat you** at tasks with perfection? Or perhaps **auto-replacing your job**?

When we think about AI, we often look at it as a replacement: high-level computation, machine learning. Yet, there is now a new wave of emerging AI, one of which happens to be musical composition.

**Aiva Technologies** is one of the leading AI music composition. It was founded just last year.

## AI Painter

See your photo turned into artwork in seconds!

HOME NEWS TECHNOLOGY SPACE PHYSICS HEALTH EARTH HUMANS LIFE TOPICS EVENTS JOBS

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

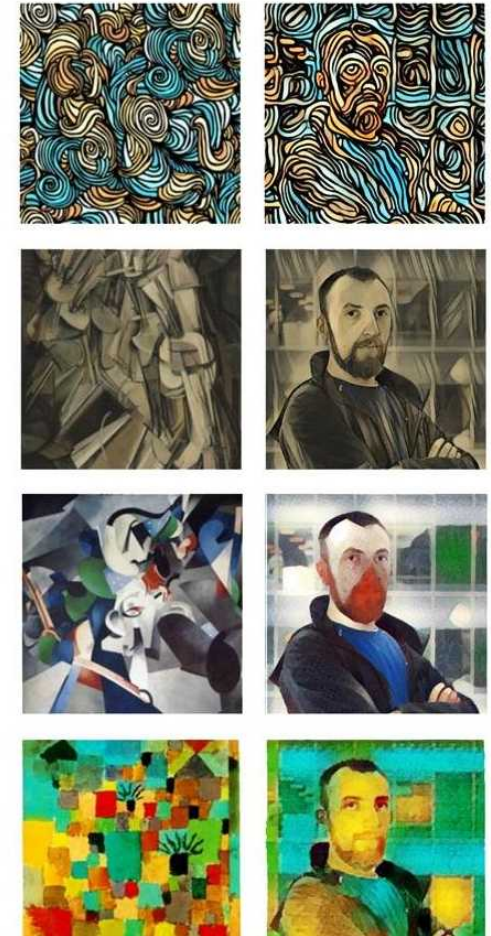
By Chris Baraniuk

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

breaking

onal artwork.  
nds, and with  
your door too.

ich you can



<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](https://git.io/v5zNL)  
für Code und Presentation