

# The Art of Machine Learning

...Really?

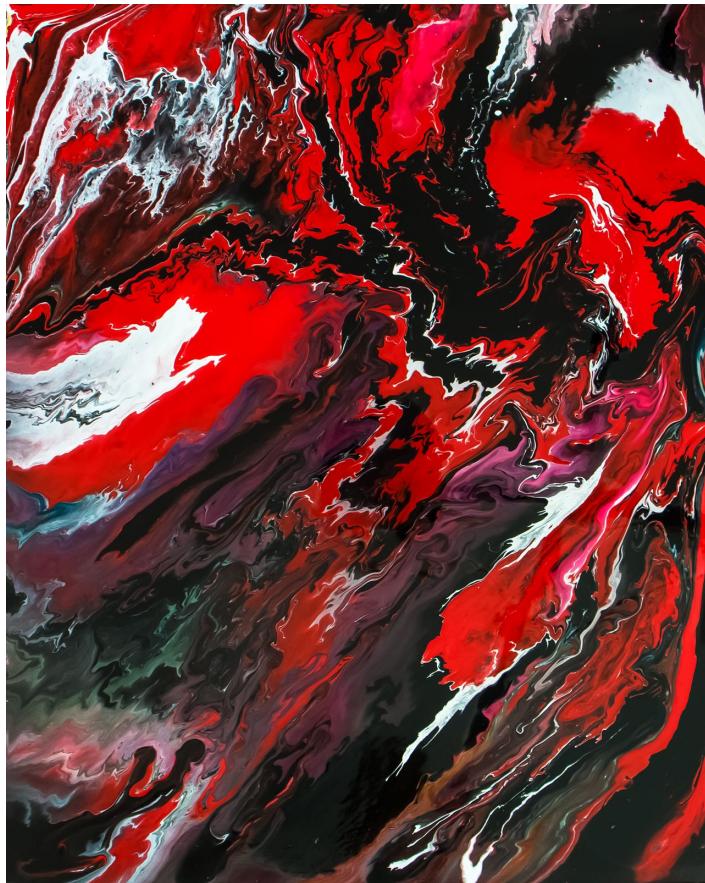
Yes, really

# Machine or Human?

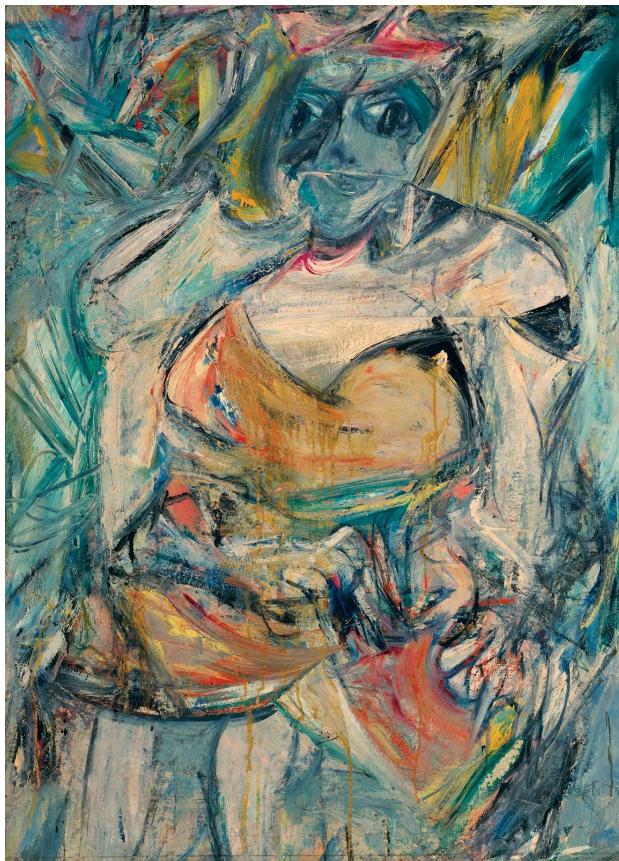
1



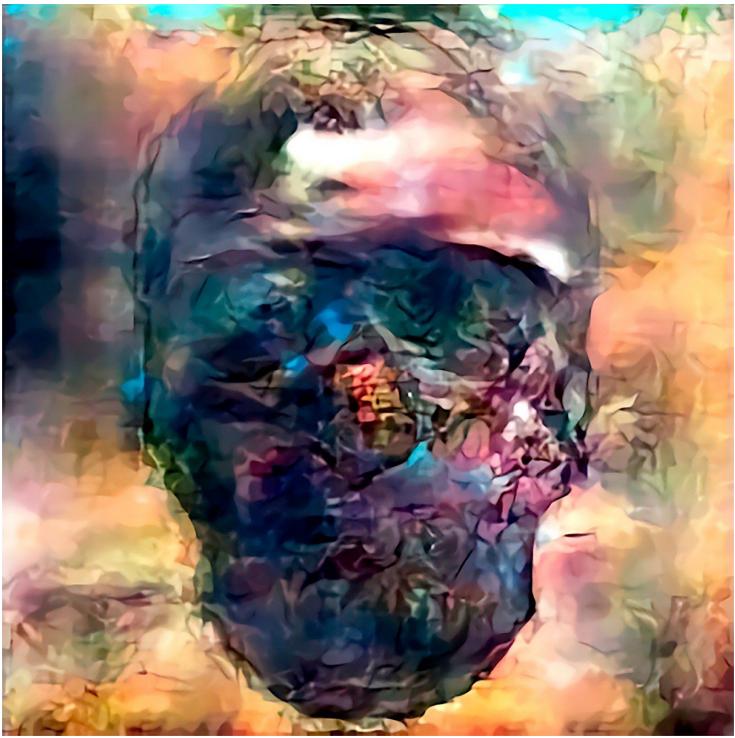
2



**2**



**1**



**1**

thy glass will show thee  
how thy beauties wear

thy dial how thy precious  
minutes waste

the vacant leaves thy  
mind's imprint will bear

and of this book this  
learning mayst thou taste

**2**

yet in a circle pallid as it  
flow

by this bright sun, that  
with his light display

roll'd from the sands, and  
half the buds of snow

and calmly on him shall  
infold away

**1**

with joyous gambols gay  
and still array

no longer when he twas,  
while in his day

at first to pass in all  
delightful ways

around him, charming  
and of all his days

**2**

let those who are in  
favour with their stars

of public honour and  
proud titles boast

whilst I, whom fortune of  
such triumph barsin

look'd for joy in that I  
honour most

Sample 1



Sample 2

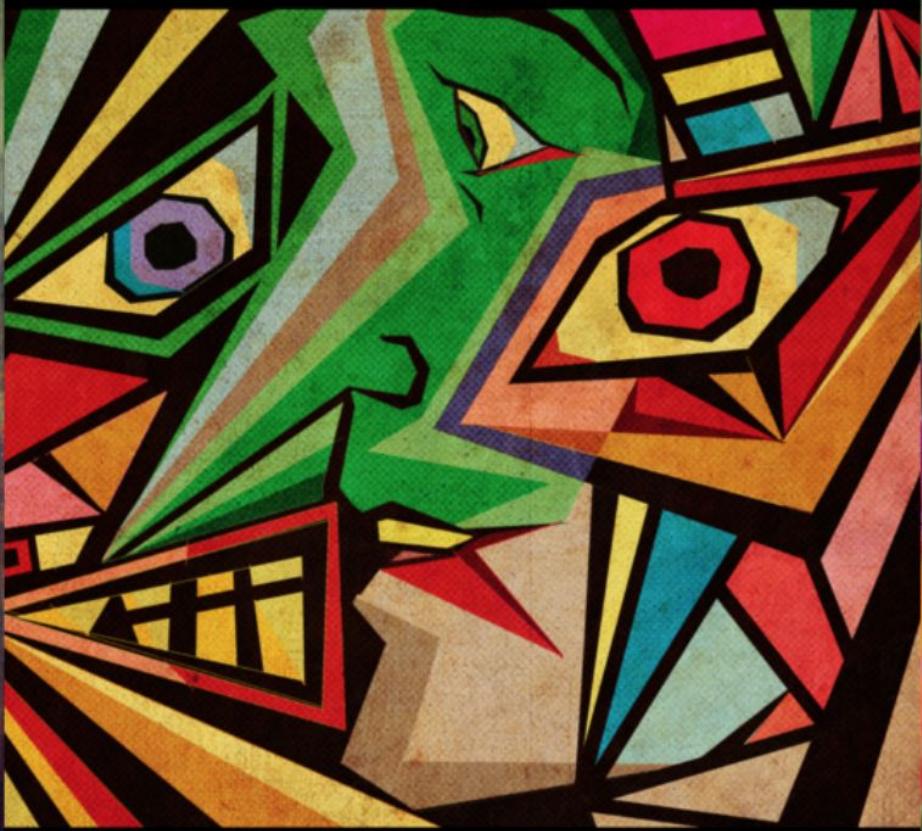


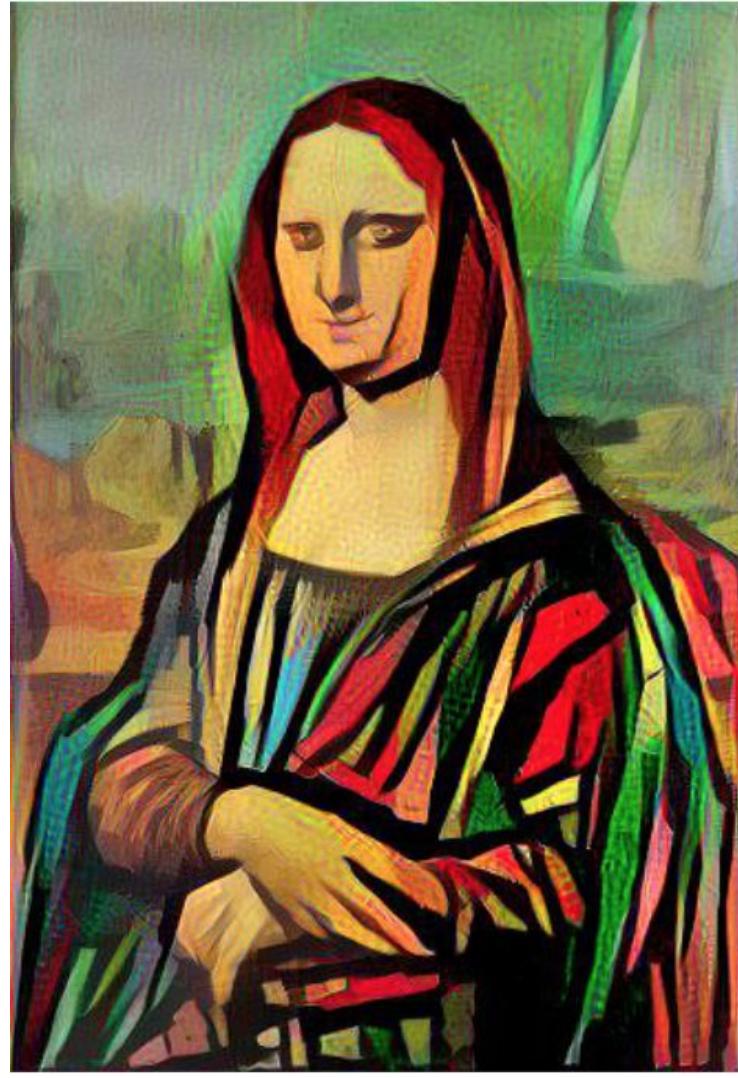
# Visual Art

# Neural Style Transfer

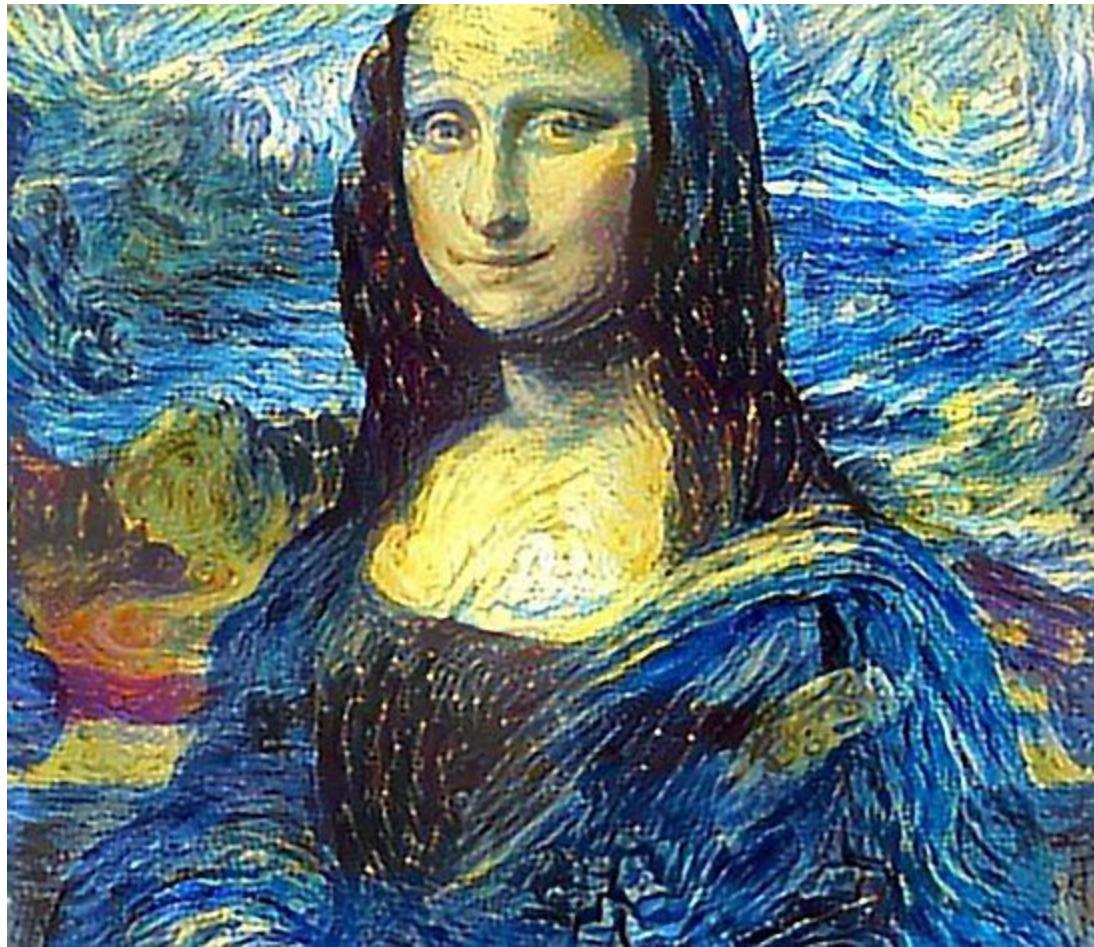


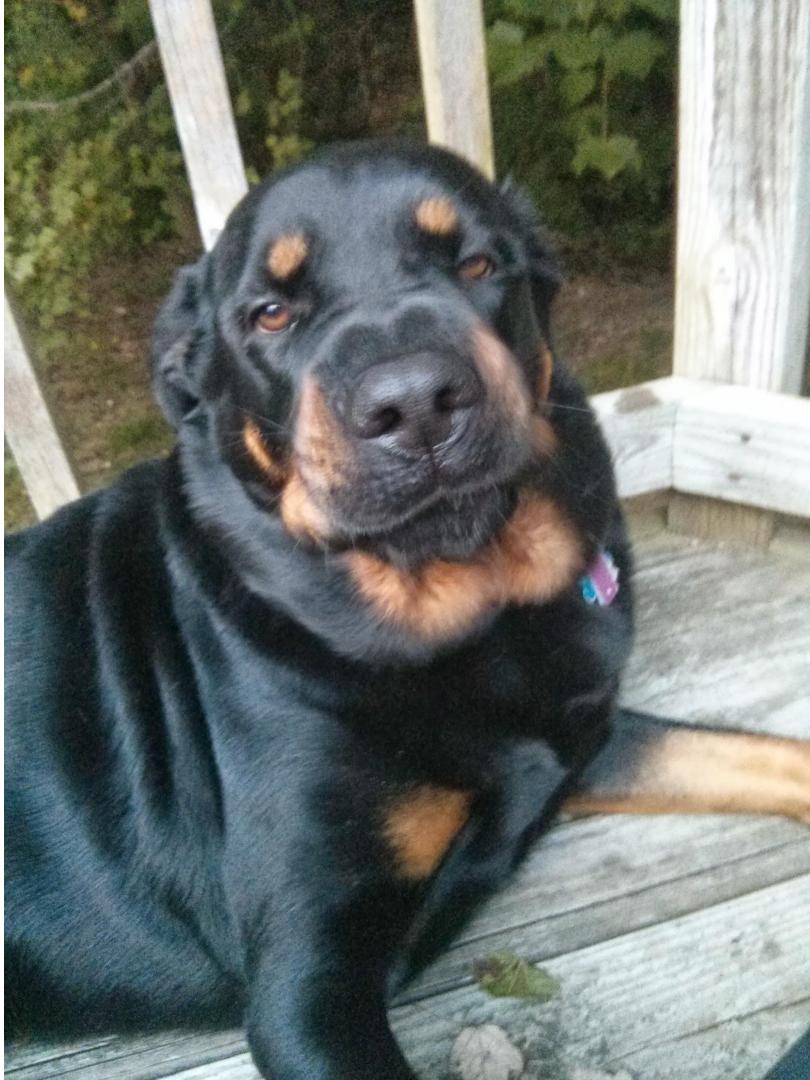
+















JORNAYA





# Visual Generation



“You have to have imagination to have creativity, but the human imagination is limited because we are constrained by our world. The machine is good at exploring possibilities, so if we can frame the machine to explore possibilities for you in the art space, then the machine can give you lots of new ideas.”

- *Dr. Ahmed Elgammal*



*Masterworks: Expert Voices*

# Infinite Portraits of Non-Existent People

# Music



# Make Music and Art Using Machine Learning

[Get Started](#)

[Try the Demos](#)

## WHAT IS MAGENTA?

An open source research project exploring the role of machine learning as a tool in the creative process.

# Music Transformer: Generating Music with Long-Term Structure

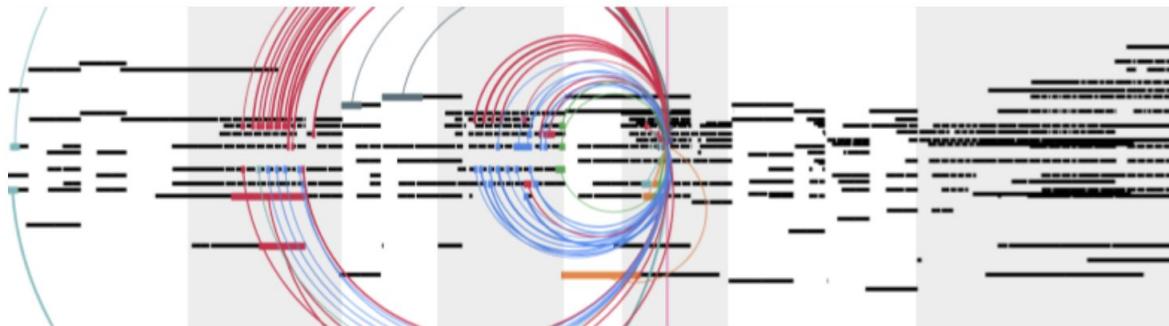
Dec 13, 2018

Cheng-Zhi Anna Huang  czhuang  huangcza

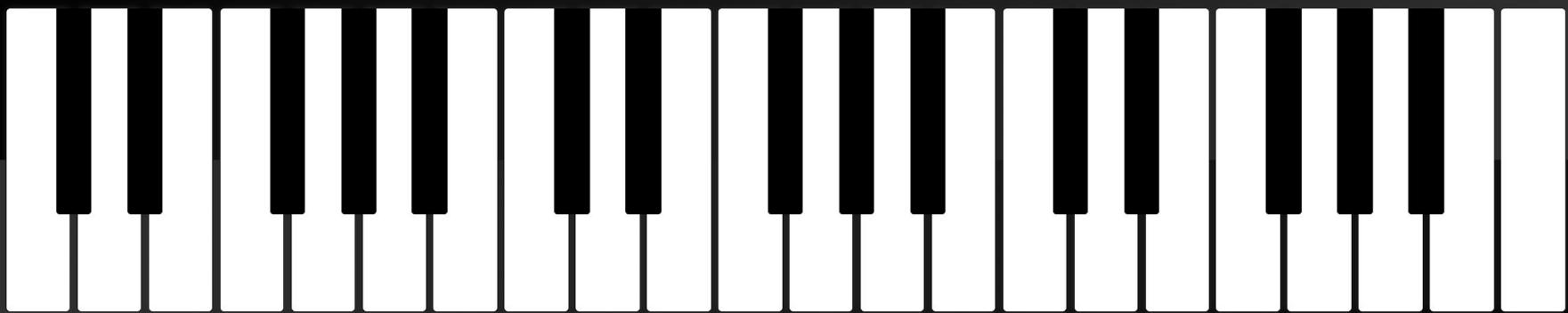
Ian Simon  iansimon  iansimon

Monica Dinculescu  notwaldorf  notwaldorf

**Update (9/16/19):** *Play with Music Transformer in an interactive colab!*



Generating long pieces of music is a challenging problem, as music contains structure at multiple timescales, from milisecond timings to motifs to phrases to repetition of entire





# MuseNet

We've created MuseNet, a deep neural network that can generate 4-minute musical compositions with 10 different instruments, and can combine styles from country to Mozart to the Beatles. MuseNet was not explicitly programmed with our understanding of music, but instead discovered patterns of harmony, rhythm, and style by learning to predict the next token in hundreds of thousands of MIDI files. MuseNet uses the same general-purpose unsupervised technology as [GPT-2](#), a large-scale [transformer](#) model trained to predict the next token in a sequence, whether audio or text.

APRIL 25, 2019  
6 MINUTE READ, 16 MINUTE LISTEN

# AWS DeepComposer – Compose Music with Generative Machine Learning Models

by Julien Simon | on 02 DEC 2019 | in Artificial Intelligence, AWS DeepComposer, AWS Re:Invent, Events, Launch, News | [Permalink](#) | 

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▶ 0:00 / 0:00



Today, we're extremely happy to announce [AWS Deep](#) generative AI service. Yes, you read that right.

Machine learning (ML) requires quite a bit of math, which is exceedingly important but to a lot of aspiring ML developers, can be boring.



Roll over image to zoom in

**AWS DeepComposer – a machine learning-enabled musical keyboard for developers**

by [Amazon Web Services](#)

Price: **\$99.00** & **FREE Shipping**. [Details](#)

## Coming Soon!

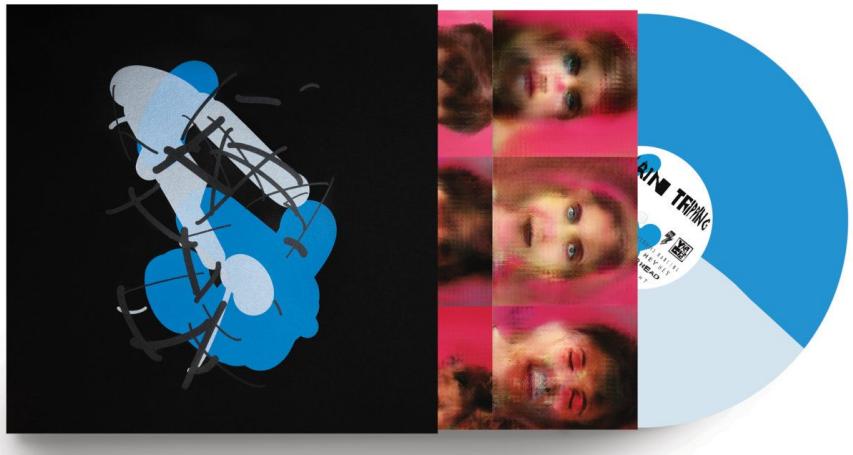
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- AWS DeepComposer gives developers of all skill levels a creative way to experience machine learning. Get hands-on, literally, with a musical keyboard and the latest machine learning techniques to compose your own music.
- Keyboard – Input a melody by connecting the AWS DeepComposer keyboard to your computer. Use the hardware buttons on the keyboard to control the volume, playback, and recording flow, as well as the built-in functions to create more complex inputs.
- Console – Generate an original musical composition in seconds, using the pre-trained genre models in the AWS DeepComposer console. Choose from rock, pop, jazz, classical, or build your own custom genre.
- Publish – Share your creations by publishing your tracks to SoundCloud in just a few clicks from the AWS DeepComposer console.
- Build Generative AI models – You can build your own custom model and music with Amazon SageMaker.
- Explore the portfolio of educational devices – Get started with reinforcement learning with AWS DeepRacer, and learn how to build deep learning-based computer vision apps with AWS DeepLens.

DANCE

# Yacht on Redemption & Using AI to Make Their New Album: Interview

8/29/2019 by Ilana Kaplan

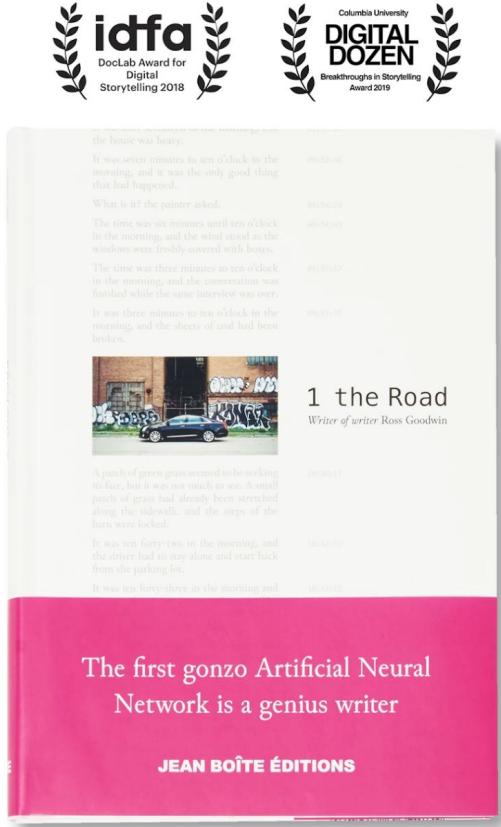


## Visual Album



Mario Klingemann & Jaclyn Campanaro

WRITTEN WORD



# 1 THE ROAD BY AN ARTIFICIAL NEURAL NETWORK

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## *1 the Road*

by Ross Goodwin

Introduction by Kenric McDowell

English and French

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143 pages

Graphic design by Joanna Starck

ISBN 978-2-36568-027-1

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“It was seven minutes to ten o’clock in the morning, and it was the only good thing that had happened.”

# Closing Thoughts

Lots of interesting projects that use machine learning as a tool to aid in creative expression and exploration.

No, we are not even remotely close to having sentient AI that's creative

Start creating!