

A.I. and I.T



Matthew Renze

DATA SCIENCE CONSULTANT

@matthewrenze matthewrenze.com

Overview



Training A.I. Models

Building A.I. Apps

Using A.I. Tools

Training A.I. Models

Training A.I. Models

**Training via
data set**

**Training via
simulation**

**Training via
demonstration**



Training an A.I. Model Using a Data Set

1. Load the Data

```
In [1]: import os
import pandas as pd
import seaborn as sns
import numpy as np
import matplotlib.pyplot as plt
from sklearn.preprocessing import StandardScaler
from sklearn.model_selection import train_test_split
from sklearn.model_selection import GridSearchCV
from sklearn.neural_network import MLPClassifier
from sklearn.metrics import accuracy_score
```

```
In [3]: os.chdir("C:\Workshop\Data")
```

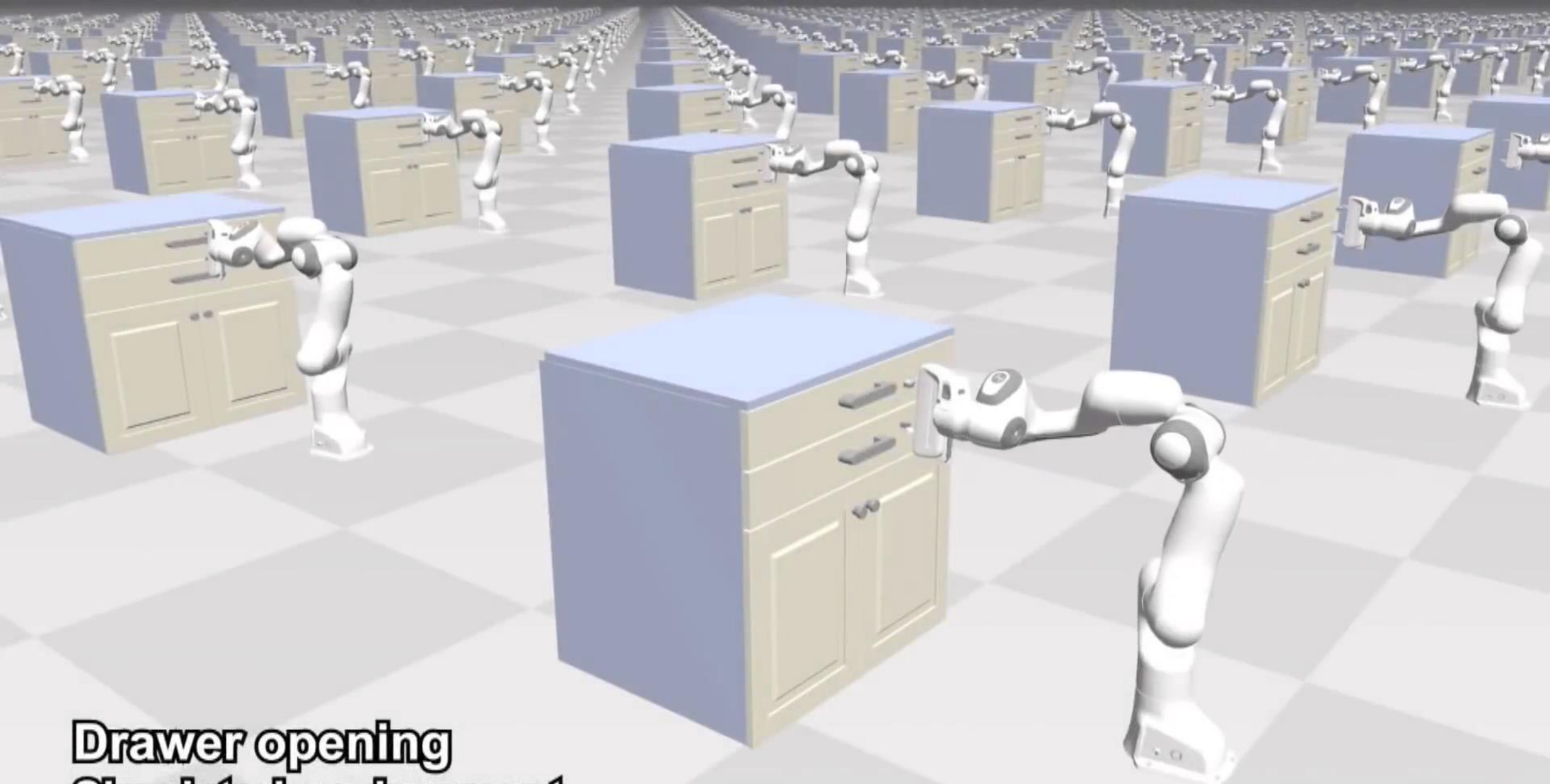
```
In [4]: policies = pd.read_csv("Risk.csv")
```

2. Transform the Data

```
In [5]: X = policies[["Gender", "State_Rate", "Height", "Weight", "BMI", "Age"]]
```

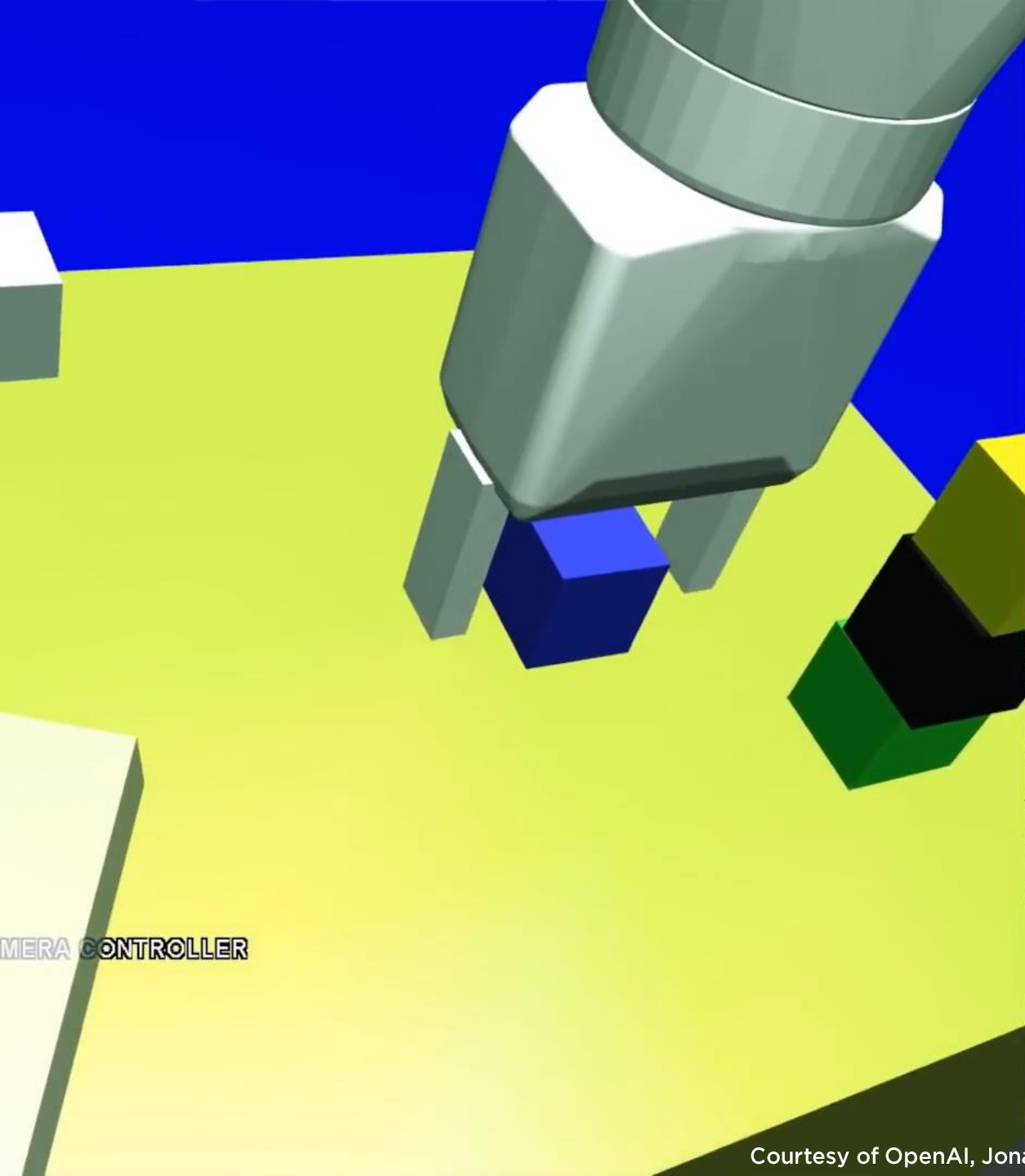
```
In [6]: X.Gender = X.Gender.replace(("Female", "Male"), (0, 1))
```

```
In [7]: y = policies.Risk
```



Drawer opening Simulated environment

Courtesy of Yevgen Chebotar, Ankur Handa, Viktor Makoviychuk, Miles Macklin, Jan Issac, Nathan Ratliff, and Dieter Fox



Courtesy of OpenAI, Jonas Schneider, and Josh Tobin



Courtesy of the HAHN Group

Training A.I. Models

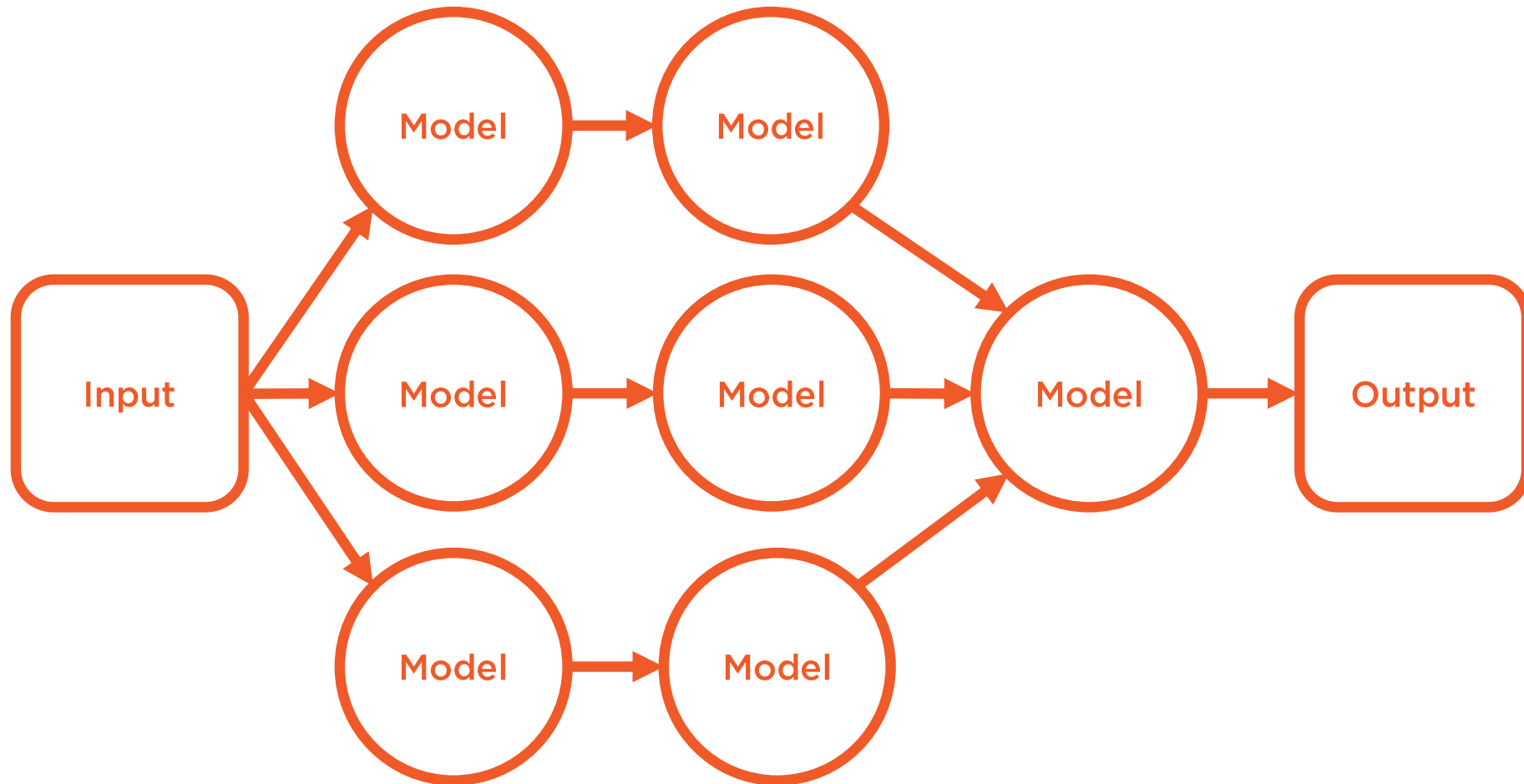
**Training via
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Building A.I. Apps

Modular A.I. Applications





John Doe

Follow

10 mins • @



My friends and I celebrated my 21st birthday by sharing a #BigCola and playing "cola pong"!

♥ Like

💬 Comment

➦ Share



☑ Image contains product

☑ Customers are happy

☑ Sentiment is positive



John Doe

Follow



10 mins • @



My friends and I celebrated my 21st birthday by sharing a #BigCola and playing "cola pong"!

♥ Like

💬 Comment

➦ Share



Big Cola, Inc

Thanks for sharing your big day with us, John! :)

Here's a free big cola for your next party!

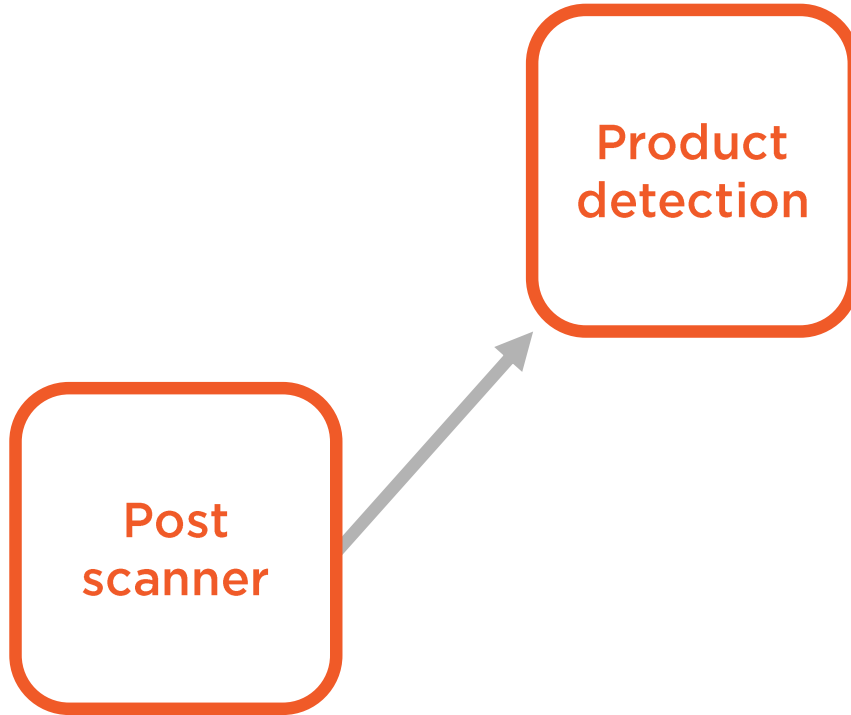
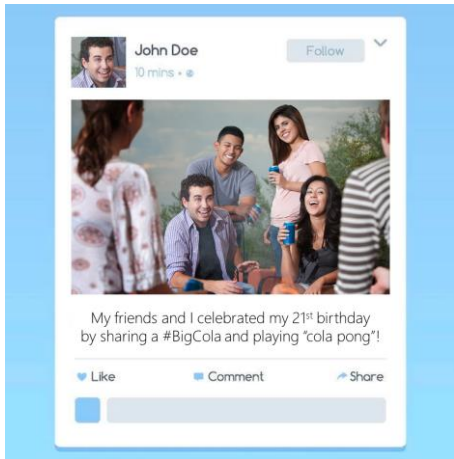
<http://bigcola.com/redeem>



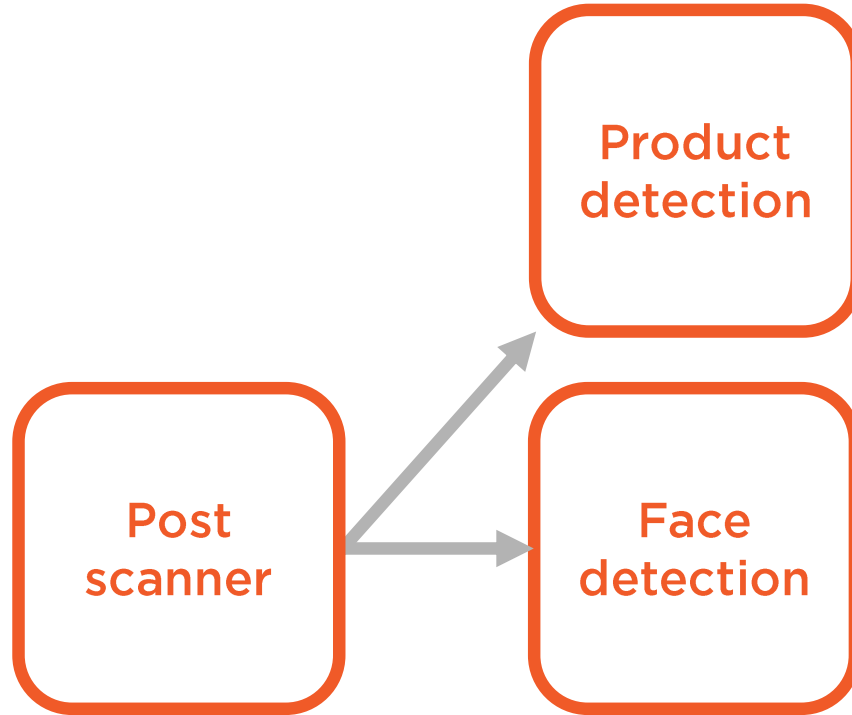
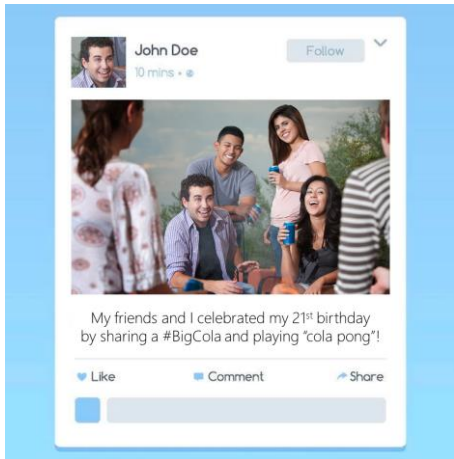
**Post
scanner**

My friends and I celebrated my 21st birthday
by sharing a #BigCola and playing "cola pong"!

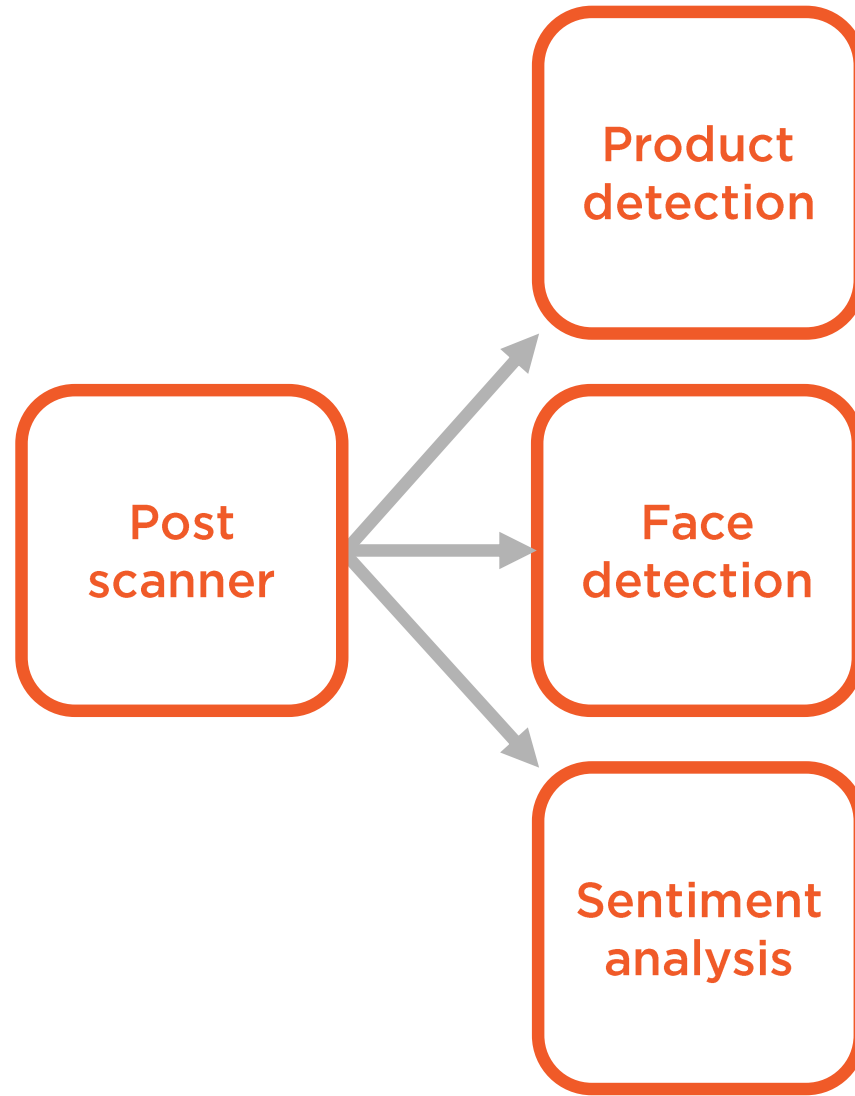
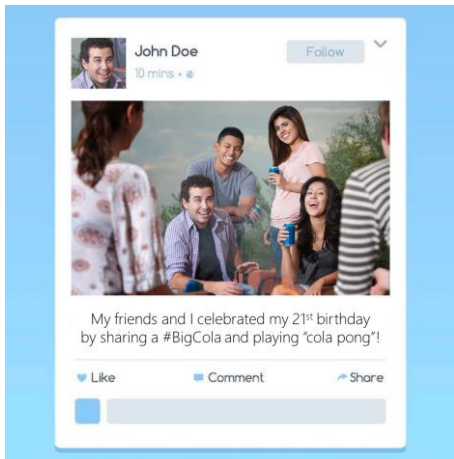
**Brand detected
(100% confidence)**



**Product detected
(90% confidence)**

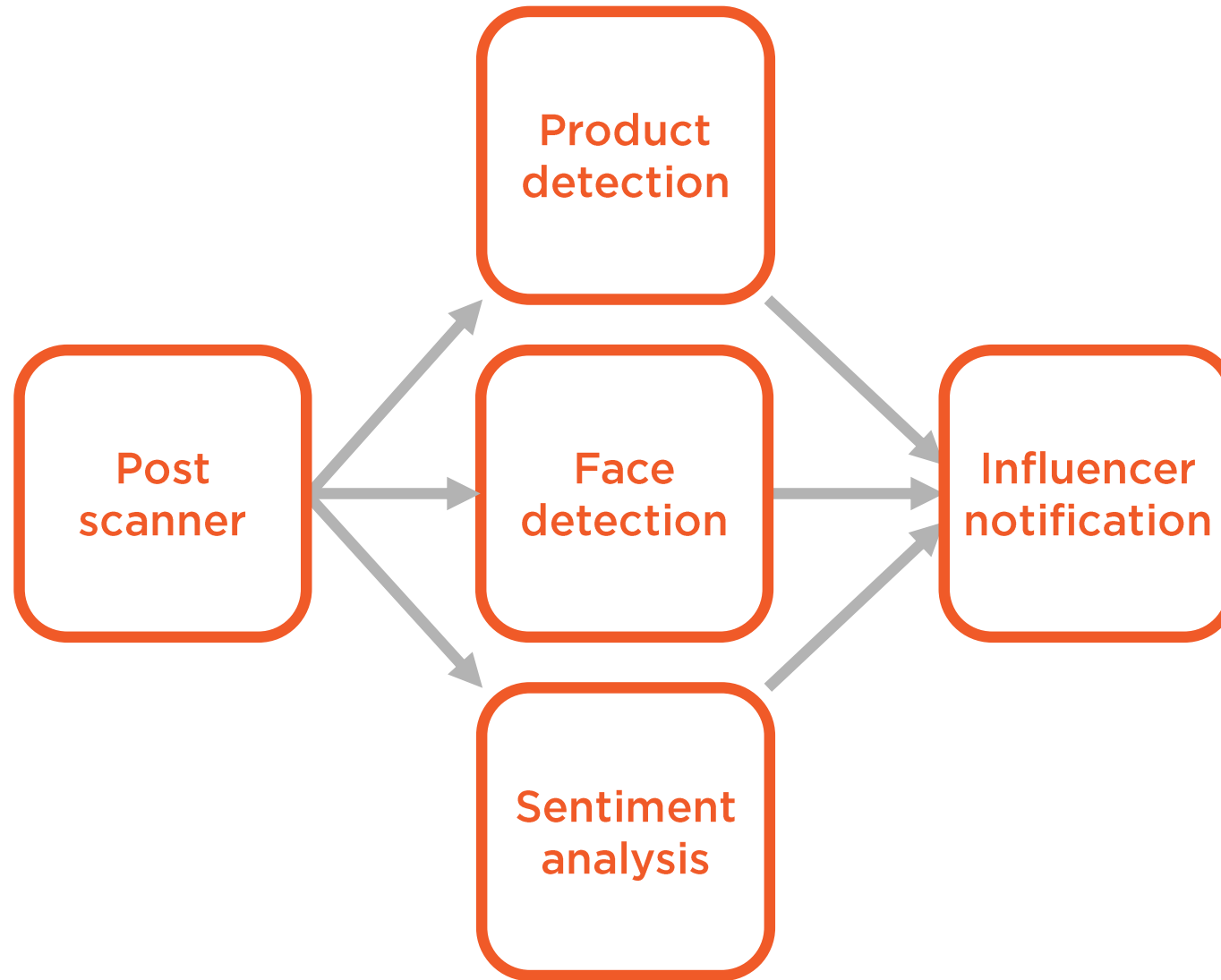
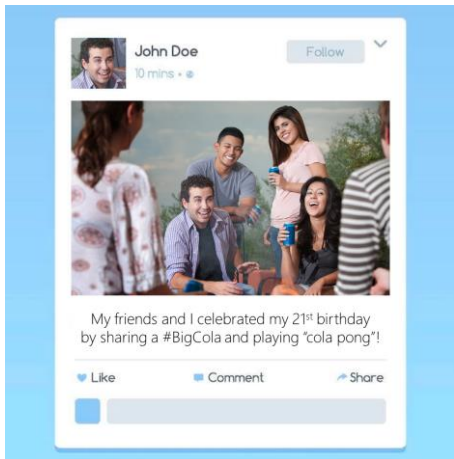


**Emotion: happiness
(99% confidence)**



My friends and I celebrated my 21st birthday by sharing a #BigCola and playing "cola pong"!

**Sentiment: positive
(95% confidence)**



Big Cola, Inc

Thanks for sharing your big day with us, John! :)

Here's a free big cola for your next party!

<http://bigcola.com/redeem>

It's the combination of A.I. modules
that will lead to A.I. applications
of the future.

Pre-trained A.I. Modules

Object detection

Face recognition

Emotion detection

Gesture recognition

Pose estimation

Video indexing

Text analysis

Language translation

Text to speech

Speech to text

Speaker recognition

Handwriting recognition

And more ...



A.I. Model Repositories

**Model
Zoo**

**Model
Depot**

ONNX

Hosted A.I. Services

**Microsoft
Cognitive
Services**

**Google
Cloud AI
Services**

**Amazon
AWS AI
Services**



Lesson Test Accuracy

16,574 Examples

Order New to Old

Sort by Date Added ▾



Everything you need to get started
is available today!

Using A.I. Tools

If you can't beat 'em... join 'em.

Don't try competing *against* A.I. ...

... learn to work *with* A.I. instead.



```
1 import os
2 import sys
3
4 # Count lines of code in the given directory, separated by file extension
5 def main(directory):
6     line_count = {}
7
8
9
10
11
12
13
14
15
16
17
18
19
```

Avengers - Power Query Editor

FileHomeTransformAdd ColumnView

Column From Examples

Custom Column

Invoke Custom Function

General

Conditional Column

Index Column

Duplicate Column

Format

Merge Columns

Extract

Parse

From Text

Statistics

Standard

Scientific

From Number

Trigonometry

Rounding

Information

Date

Time

Duration

From Date & Time

Queries

	Super Name	Real Name
1	Captain America	Capt. Steve Rogers
2	Iron Man	tOnY sTaRk
3	The Hulk	Dr. Bruce Banner
4	Thor	THOR OF ASGARD
5	Black Widow	natasha romanoff
6	Hawkeye	Mr. Clint Barton
7	Dr. Strange	Dr. Steven Strange
8	Spiderman	PETER parker
9	Black Panther	T'Challa
10	Captain Marvel	Capt. Carol Danvers

Query Settings

PROPERTIES

Name

Avengers










All Properties

APPLIED STEPS

Source

Changed Type

2 COLUMNS, 10 ROWSPREVIEW DOWNLOADED AT 2:26 PM

- 
-  Home
-  Favorites >
-  Recent >
-  Apps
-  Shared with me
-  Workspaces >
-  My workspace ^
- Dashboards**
- Retail Analysis Sam...
- Sales and Marketin...
- Reports**
- Retail Analysis Sam...
- Sales and Marketin...
- Workbooks**
-  Get data

< Exit Q&A

☐ New Q&A experience off

 Ask a question about your data

This is just the beginning!

Summary

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