

Human-Centered Data Science for Good: Creating Ethical Algorithms



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Creating Ethical Algorithms

DataKind THE
ENGINE
ROOM

from **POSSIBILITIES**
to **RESPONSIBILITIES**

#DoGoodData

DATA ON PURPOSE

 DO GOOD DATA



DataKind

Harnessing the power of
data science in the
service of humanity.



Responsible Data



<https://responsibledata.io>

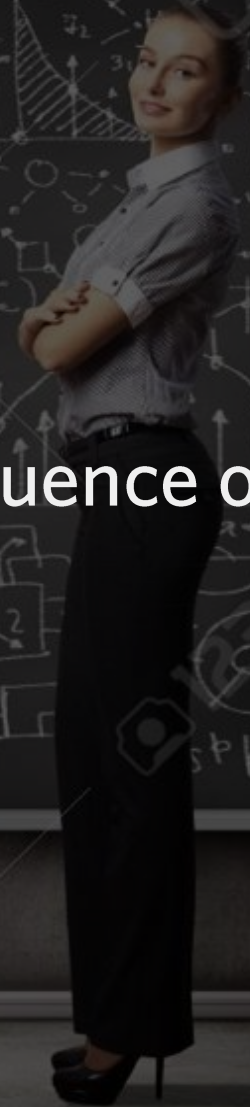
A Day In the Life

How did you interact with algorithms yesterday?



What is an algorithm?

“A set of rules that precisely defines a sequence of operations.”



Watch Instantly

Just for Kids

Browse DVDs

Your Queue

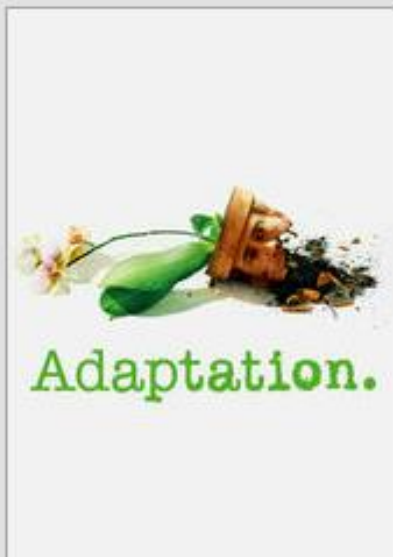
Taste Profile

Genres ▾

New Arrivals

Instantly to your TV

Recently Watched



Top 10 for Craig

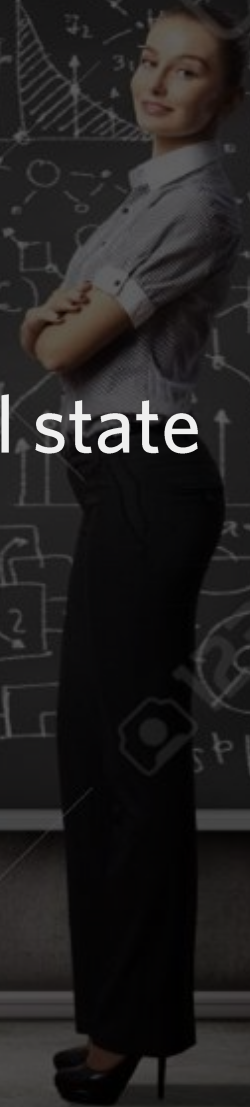


Popular on Netflix



What is an algorithm?

- A goal state it's trying to get to
- Actions and decisions to get to that goal state



1. Goal is to get you to watch more (\$ for Netflix)
2. Action is to show you movies it believes you're likely to watch

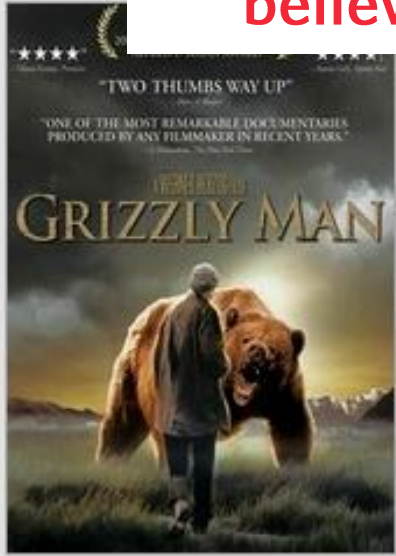
Watch Instantly Just for Kids Bro

Genres ▾ New Arrivals Instantly to yo

Recently Watched



Top 10



Popular on Netflix



What does that have to do with data?

- A goal state it's trying to get to
- Actions and decisions to get to that goal state
- Data to inform its decisions (think ingredients in a recipe)



Recently Watched

Top 10 for Craig



3. Data about what you've watched before
Data about what other people are watching

Popular on Netflix



What does that have to do with data?

- A goal state it's trying to get to
- Actions and decisions to get to that goal state
- Data to inform its decisions (think ingredients in a recipe)
- Data as evidence for how it's doing (think feedback loops)



Recently Watched



Top 10 for Craig



4. Data about whether you clicked these. If you did, how long you watched them, what you rated them, etc.

Popular on Netflix



●

“We have a profound ethical responsibility to design systems that have a positive impact on society, obey the law, and adhere to our highest ethical standards.”

– Oren Etzioni, CEO Allen Institute for Artificial Intelligence –

●



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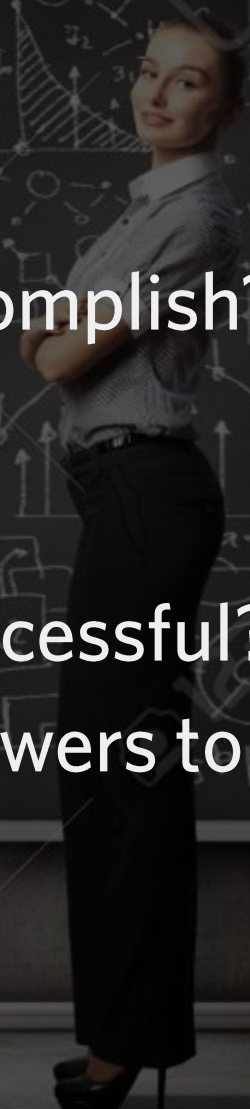


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Trends · Change #SuperBowl @ScienceMarchDC, @katiemcvay and 3 more are Tweeting about this #PuppyBowl 19.1K Tweets #BoycottBudweiser

Grounding Questions:

- What does the algorithm set out to accomplish?
- What activities does it use to do that?
- What data drives those decisions?
- What data does it use to know if it's successful?
- Who has the power to influence the answers to these questions?



Closing and Food for Thought

Stop and Frisk Data API

4259606 total records match your query

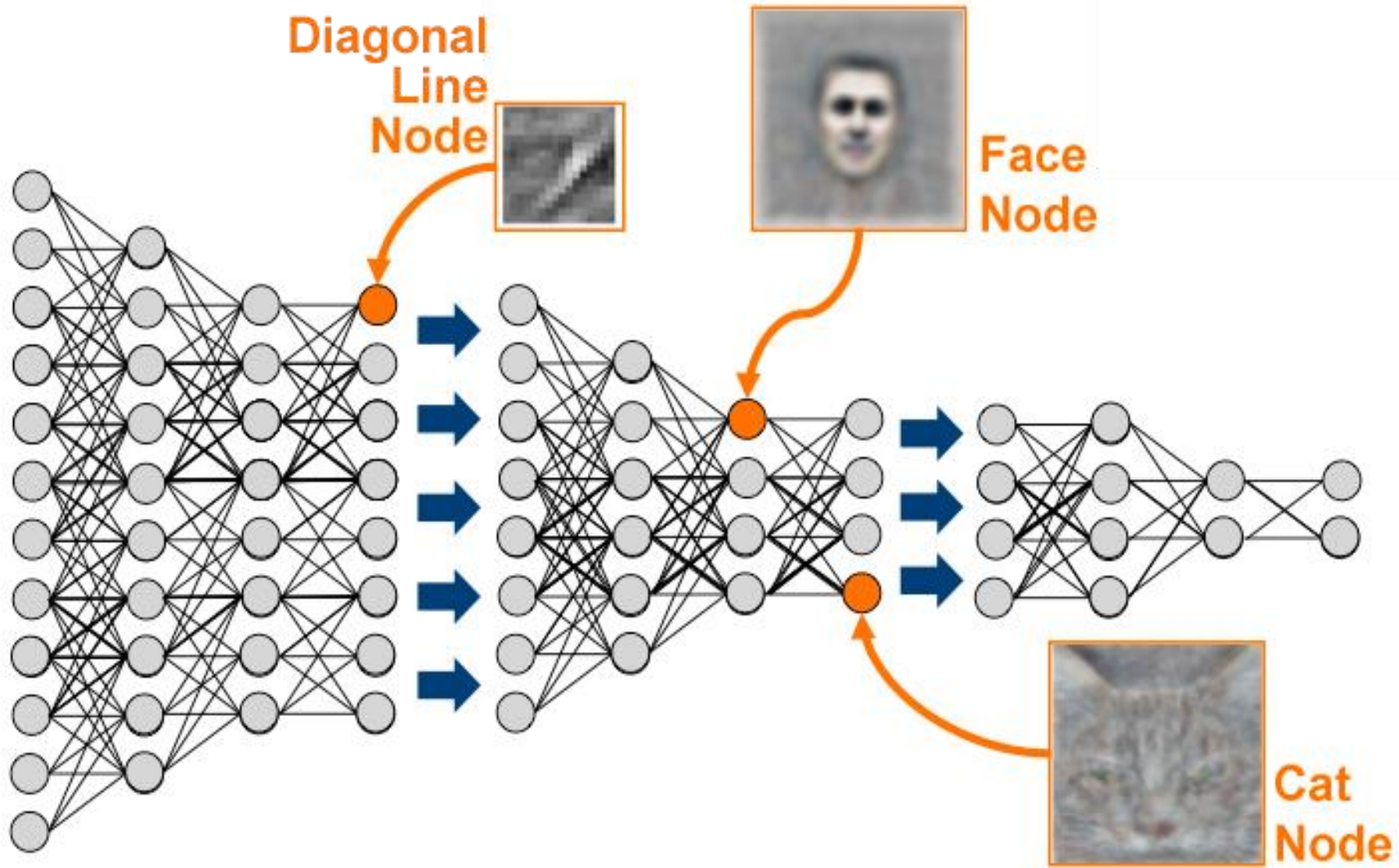
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Data is not fact,
but the result of
a design process

[Previous Page](#)

[Next Page](#)

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CPW	28	M	NEWTOWN ROAD	P	M	False	506ec425519d0b5bf11415ea
BURGLARY	26	M	37 AVENUE	Q	M	True	506ec425519d0b5bf11415eb
BURG	32	M	GORDON STREET	B	M	True	506ec425519d0b5bf11415ec
GRAND LARCENY AUTO	36	M		B	M	False	506ec425519d0b5bf11415ed
C.P.W.	18	Z		Z	T	True	506ec425519d0b5bf11415ee
FEL	20	M	SAGAMORE AVENUE	B	T	False	506ec425519d0b5bf11415ef
ROBBERY	35	M		Q	M	False	506ec425519d0b5bf11415f0
M	20	F	NEPTUNE AVENUE	Q	M	False	506ec425519d0b5bf11415f1
CPW	24	M		Q	M	True	506ec425519d0b5bf11415f2
CPW	14	M		B	M	True	506ec425519d0b5bf11415f3
FEL/ROBBERY	16	M	67 AVENUE	B	M	True	506ec425519d0b5bf11415f4
NARCOTICS SALE	20	Z		B	M	True	506ec425519d0b5bf11415f5
GRAND LARCENY AUTO	19	M		Q	M	False	506ec425519d0b5bf11415f6
MISD. FIREWORKS	19	M		Q	T	False	506ec425519d0b5bf11415f7
QUESTIONING	23	F		Q	H	False	506ec425519d0b5bf11415f8



New Microsoft patent: Walking directions that avoid crime-ridden neighborhoods

BY **TODD BISHOP** on January 3, 2012 at 1:33 pm

Comments 22

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Microsoft was issued a patent today on a computer system for “pedestrian route production” — better known as walking directions — that automatically adjusts the route for the unique conditions encountered by a person going from place to place on foot.

One of the features would help pedestrians avoid an “unsafe neighborhood,” taking into account violent crime data.

According to the patent, the system could “construct a direction set that allows




Audience Q&A



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