Hunting Bots & Trolls

Humans and Machines Learning Together

Dr. Stuart W. Shulman

Overview of the Presentation

- 30 years of text classification work
 - A pathway to CoderRank
- Lessons from campaigns
 - Bots & trolls in the Trudeau & Biden data
- Platform cooperation
 - Who can do this work
- A proposed game platform
 - Hunting bots & trolls, identifying Vets on a trajectory toward suicide, and stopping school shooters

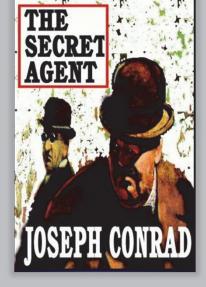
30 years of text classification work

A Pathway to CoderRank

Political Extremism & the Novel

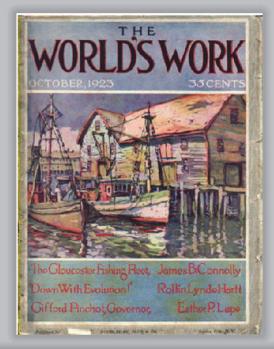




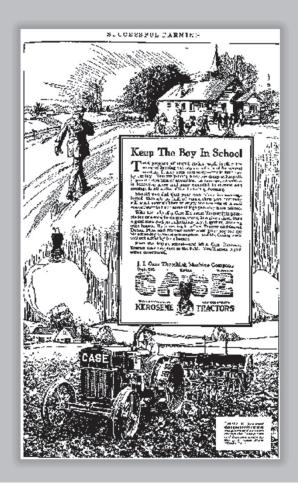




Agenda-Setting & the Print Press







Electronic Rulemaking in 1999







National Science Foundation

WHERE DISCOVERIES BEGIN

Multi-Agency Workshops

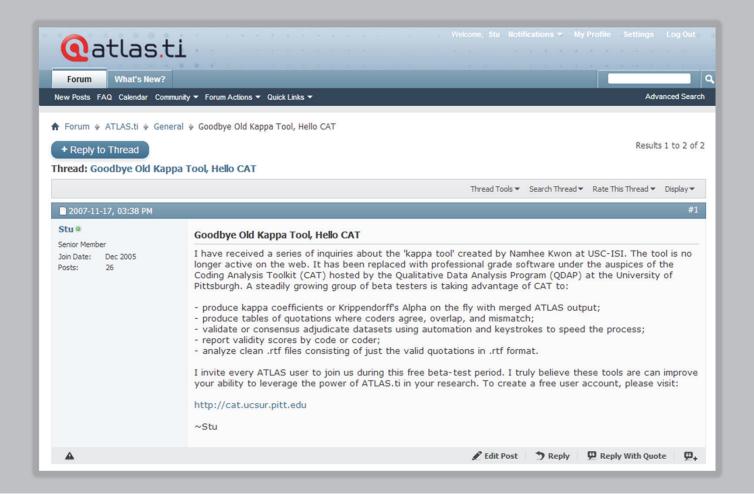


May 2001
Council for Excellence in Government



June 2002 National Defense University

Commercial Off the Shelf Software



CAT Launched Fall 2007

Welcome to the Coding Analysis Toolkit (CAT)

CAT is a free and open source text analysis service hosted by Texifter. Load, code, and annotate text data in teams. Measure inter-rater reliability and adjudicate differences between coders. Report on the accuracy of codes and coders over time. Train better coders through systematic iterations. CAT was the 2008 winner of the "Best Research Software" award from the organized section on Information Technology & Politics in the American Political Science Association.

For the CAT Quick Start Guide, you can view the PDF file here: CAT Quickstart Guide

To view a tutorial on using CAT, click here: CAT Tutorial - February 23, 2009

There are numerous and diverse academic citations of the Coding Analysis Toolkit: Scholarly Citations

CAT Statistics

There are currently **17,510** primary CAT accounts and **1,730** sub-accounts. CAT users have uploaded **10,859** coded datasets and **21,860** raw datasets. They have coded a total of **2,647,655** items and adjudicators have made **242,163** validation choices in CAT.

What CAT Does | CAT Features | Praise for CAT

What can you do in CAT?

Efficiently code raw text data sets
Annotate coding with shared memos
Manage team coding permissions via the Web
Create unlimited collaborator sub-accounts
Assign multiple coders to specific tasks
Easily measure inter-rater reliability
Adjudicate valid & invalid coder decisions
Report validity by dataset, code or coder
Export coding in RTF, CSV or XML format
Archive or share completed projects

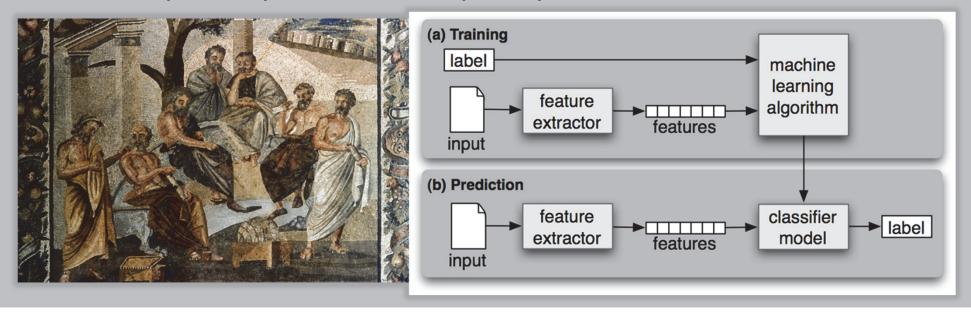
What file types can CAT import?

Plain text HTML CAT XML Merged ATLAS.ti coding

CAT Resources

Text Classification is Hard

- A 2,500-year-old problem
- Plato argued it would be frustrating; it still is
- Software cannot remove the problem
- It can help to expose it more quickly



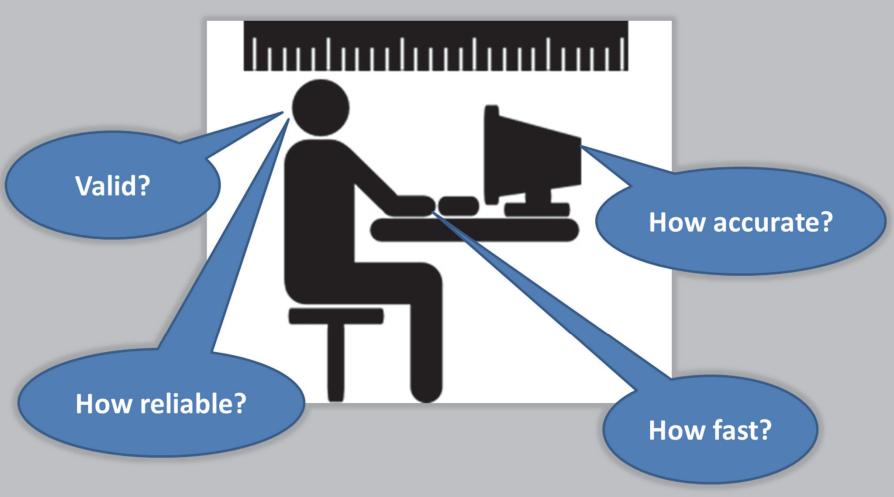
"Text as Data" Grimmer & Stewart (2013)

- Volume is a problem for scholars
- Coders are expensive
- Groups struggle to accurately label text at scale
- Validation of both humans and machines is "essential"
- Some models are easier to validate than others
- All models are wrong
- Automated models amplify but don't replace humans
- There is no one right way to do this
- "Validate, validate, validate"
- "What should be avoided then, is the blind use of any method without a validation step."

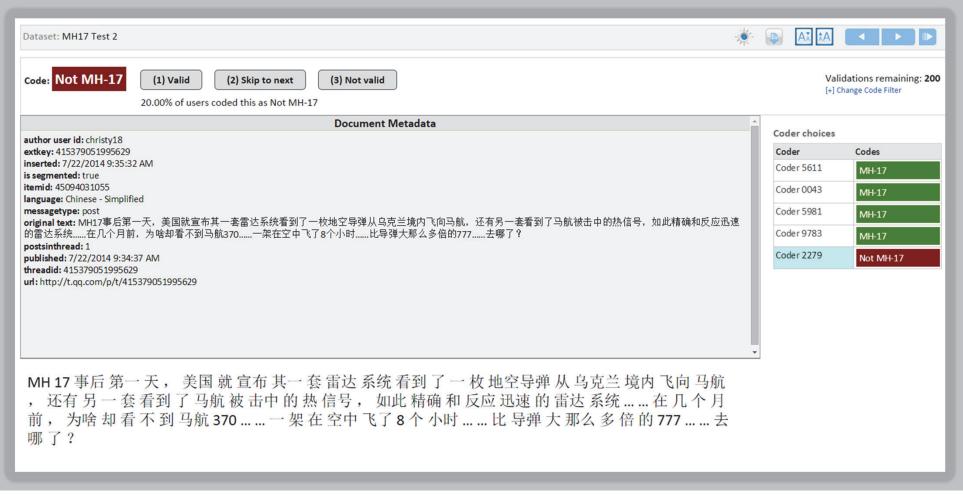
Crowdsourcing the Task



Measure Everything



Adjudicate Boundary Cases



CoderRank

- 1. When training machines, it is best to rely on those humans most likely to create a valid observation.
- 2. We developed a unique way to rank humans on trust and knowledge vectors calling it CoderRank.

Patent Issued 2016

"System and method of classifier ranking for incorporation into enhanced machine learning"

Lessons from campaigns

Bots & trolls in the Trudeau & Biden data

Archive Name	Created ☆	Units
trudeaumustgo	09/07/2019 16:19	643,669
AndrewScheer	09/07/2019 16:21	520,747
	09/07/2019 16:27	970,240
MaximeBernier	09/07/2019 16:28	664,183
Trudeau	09/19/2019 10:04	715,377
scheerlies OR scheerdisaster	09/27/2019 12:35	54,046
User Bios 100-plus-per-day Tweets	10/04/2019 01:13	672
trudeaumustgo user descriptions	10/05/2019 13:15	26,854
trudeaumustgo_southfront_veterans	10/07/2019 00:57	2,410
AndrewScheer_southfront_veterans	10/07/2019 01:01	2,118
■ JustinTrudeau_southfront_veterans	10/07/2019 01:02	3,404
MaximeBernier_southfront_veterans	10/07/2019 01:02	4,421

trudeaumustgo user descriptions

	View as List	▼ 300 items ▼ Bigra	ams 🔻
Term		Count	↓ ₹
maga kag			758
trump supporter			377
husband father			373
proud canadian			360
president trump			332
happily married			276
1a 2a			253
free speech			229
common sense			221
god family			206
love country			206
opinions own			201
god bless			199
trump maga			191

trudeaumustgo user descriptions

business owner	188
wife mother	174
love god	167
animal lover	158
father husband	158
donald trump	156
family country	153
christian conservative	151
maga trump2020	148
god country	143
kag trump2020	142
maga wwg1wga	136
tweets own	130
mcga maga	128
maga trump	125

57 buckets		search by name	© Q
Bucket Name	Created	Units	
trudeau in bio set from trudeaumustgo	09/10/2019 13:35	21,395	
007 - NATO in Bio	09/11/2019 16:59	1,094	
Group 1	09/18/2019 16:21	112,530	
Single 1	09/18/2019 16:21	1,275	
trudeaumustgo spike 1-day 091919	09/20/2019 15:14	28,705	
user_description contains bot	09/20/2019 15:32	15,610	
trudeaumustgo spike 1-day 091919 >100K	09/20/2019 19:52	2,689	
Seeds and Singles	09/20/2019 20:00	82,770	
trudeaumustgo MAGA in BIO	09/23/2019 02:08	18,411	
trudeaumustgo MCGA	09/23/2019 02:10	12,479	
trudeaumustgo MAGA in BIO SPIKE	09/27/2019 17:28	3,010	
JustinTrudeau infl <0.01	09/28/2019 14:53	322	
JustinTrudeau infl <0.05	09/28/2019 14:56	6,673	

Search and Browse Archive Archive Details | trudeaumustgo user descriptions Showing 1 to 100 of 5,702 total Add All to New Bucket Add All to Existing Bucket Add Selected to Existing Bucket Options #Canada #Trump #Brexit #Vets #TrudeauMustGo #USA #SOROS #FordNation #RCAF #Conservative #Sheer4PM ...r of all animals. 🔮 Love Trump! Hate Trudeau!!Trudeau must go!!MAGA! Make Alberta Great Again! ca Base Bratt! #MCGA #Trudeaumustgo #Scheer4PM 🕝 #WWG1WGA ♥ us #MAGA #doingitright 🙏 × #CONSERVATIVE; Christian; ProLife; #MAGA; #Trump2020 8 caus#MAGA #TrudeauWorsePM God bless @Potus I \$\infty\$ \$\infty\$ Conservative Follower of Jesus! I Love My Country cacaVeteran #Nationalists #MCGA 🙏 🙏 #TrudeauMustGo #TrudeauCorruption #Trudea... ...rrect. Conservative #MAGA us #MCGA ca#LoveTrump #LoveCanada #LovePoland #KAG #AmericaFirst #Can... ...a living life. Love Jesus. #MCGA #MAGA Parler name @prairiefire. Happily married. No D.M.'s please. ... 8 ... ♥family, God, @potus, @flotus, Police, Military, Isreal, #KAG #MAGA #TrudeauMustGo #ScheerPM ...PUTER GURU.Watching MAGA from up top my moose drinking beer next to my igloo, Eh!Lets get together a... ...ALKAWAY #CANADAFIRST #MAGA #NOGLOBALMIGRATION • Retired • Runner • Married • LEO • #TrudeauMust #MAGA Make Canada great again!! 😇 🥁 I love all common sense people regardless of race or religio... ...tive, @AndrewScheer, #MCGA, #Nationalist, #DJTrump, #QAnon, #IStandwithFlynn, #MAGA, Canada/USA

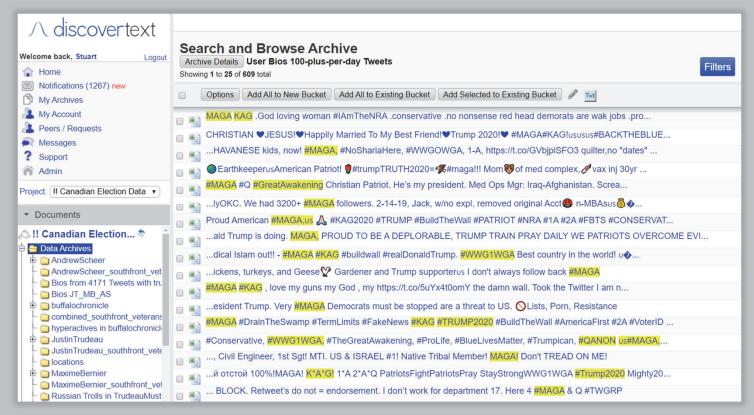


Manual Inspection of Accounts





Manual Inspection of Lists



MAGA OR KAG OR Trump2020 OR WWG1WGA OR QANON OR GreatAwakening are in 90% of the Canadian election Bios with >100 Tweets/Day

What Happens When QAnon Seeps From the Web to the Offline World







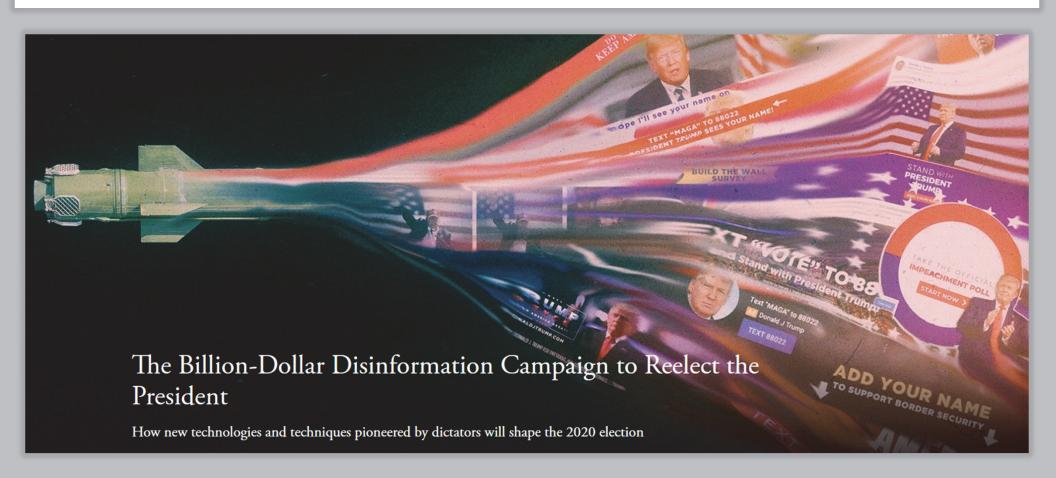


ILLUSTRATION: MISHKO; HANNA ALANDI / GETTY



Project Details (Current Project: 001-Biden)

Project Management > Project Details

Project Name: 001-Biden Edit Name

.

Project Statistics

Archives: 20 archives Buckets: 51 buckets

Datasets: 22 datasets

Total Units: 8,931,475 units
Unread Units: 8,924,903 units
Codable Units: 130,432 units

Uncoded Units: 8,922,397 units

Project Owner: Stuart Shulman

Project Creation Date: 12/22/2019
Last Modification Date: 2/6/2020

Is Project Locked? no

Project Adjudication Statistics

Project Options

View All Project Documents

Search

Import Data

Edit Project Preferences

Edit Project Permissions

Lock Project

View Live Feed Schedules

Select Peer Groups

Select Peers

Delete Project

TopMeta Explorer

TimeTrack

Archived Items

Free Wizard 👩, Father 🦍, #ProLife 💙, Engineer 🧟, �...

"Deep in each man is the knowledge that something knows...

SOUTH JERSEY GIRL Constantly reading. Warranty Admin, Proud L.

Here to support @realDonaldTrump $\cup sFB$ all English Lang...

¡¡ I am large, I contain multiDudes ¡¡ Picker • Grinner • Lov...

Gen Z Democratic/Socialist, Envisioning A Socialist De...

https://t.co/HkT8xuFbzL • https://t.co/XFHitd4GBS • https://t.co/TpHRHjn0uT • https://t.co/znYB7o...

Dad, mixer of sounds blending art and science. IATSE me...

Stat. VetWife. Love my kids/animals. "The urge to save humanity is almo."...

#Resist SingleDad Memoirist Atheist https://t.co/IrPmdtWcgJ https://t.co/5II1qNd1GR https://t.co/V2c...

• us \mathcal{MAGA} nificent American Girl \delta \delta • XØXØ • 🤝 🛠 1 John 4:16 • (╭ ७ ∪ ७) ╭ Cuddles are cool o...

Powering The People's Internet. Social: https://t.co/iY5FZgfGju Web Browser: https://t.co/F5bv2ajrgK...

USA, POTUS, POP, World, Tech, Follow, fb https://t.co/eX7jVa0YBS https://t.co/nCOv1YnPJ0 https://t.c...

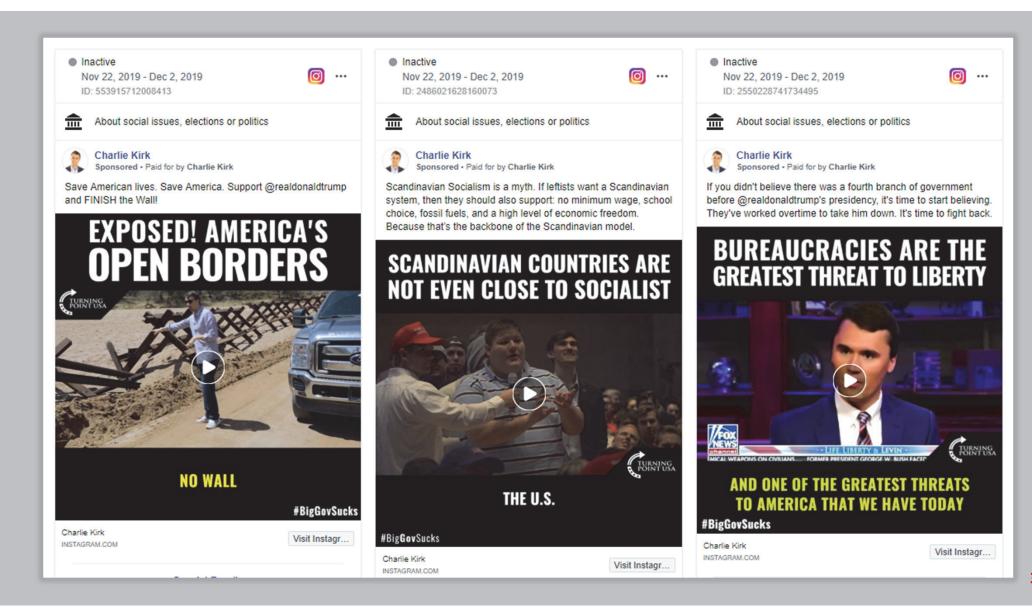
#WWG1WGA♥#Q #MAGA #America1st #ProLife♥ #1A2A #Married #Tr...

SEEMANN / BARDE 😂 SAILOR / BARD 😂 DEUS 🏶 📋 🅖 🖋 💢 🕡 😂 😂 😂 😂 😂 😂 😂 😂 😂 😂 🗘

Viral Tweets December 20 – January 5

Group Id	Items	Snippet
Group 1	20908	RT @charliekirk11 Joe Biden sent his wife to Mexico to hand out meals to asylum seekers & immigrants This is your daily reminder: Joe Bi
Group 2	19557	RT @charliekirk11 Wait, so Biden blackmailed Ukraine because they were investigating his son for making millions of dollars for doing noth
Group 3	19395	RT @realDerekUtley: BREAKING: Hunter Biden is under criminal investigations for money laundering. He made \$156 MILLION dollars! The Demo
Group 4	18585	RT @charliekirk11 Democrat net worths from this week's debate: Elizabeth Warren: \$12M Joe Biden: \$9M Tom Steyer: \$1.6B Amy Klobuchar: \$1
Group 5	17884	RT @RyanAFournier: BREAKING: The Arkansas judge handling the Hunter Biden case just mysteriously quit with no explanation. What's going
Group 6	17381	RT @charliekirk11 This is your daily reminder that Joe Biden actually BRAGGED about a quid pro quo with Ukraine Democrats want to impeach
Group 7	14172	RT @KatTheHammer1: Joe Biden has been in office for 44 yrs. Chuck Schumer 38 yrs. Nancy Pelosi 32 yrs. Maxine Waters 28 yrs. Yet they b
Group 8	12615	RT @charliekirk11 Insanity: Hunter Biden is calling court requests for his financial records "unreasonable" and says their meant to "anno
Group 9	12120	RT @RealSaavedra: In September, Democrat Joe Biden attacked TX Gov Greg Abbott for signing a law that let lawful gun owners carry guns into
Group 10	11347	RT @charliekirk11 BREAKING: Joe Biden says he won't testify in a Senate trial if he's subpoenaed Doesn't that sound a lot like the "Obst
Group 11	10784	RT @RyanAFournier: BREAKING: Hunter Biden is being investigated for money laundering with Burisma Holdings. \$6.8 million dollars was trans
Group 12	10585	RT @newtgingrich: Why would Biden side with Iranian terrorist commander Soleimani against President Trump? Of course Biden was part of the
Group 13	10336	RT @RudyGiuliani: The Accounts Chamber in Ukraine found an alleged misuse of \$5.3B in U.S. funds during the Obama administration while Bide
Group 14	10324	RT @TrumpWarRoom: Joe Biden just got CAUGHT LYING about how he OPPOSED the raid to kill Osama bin Laden. In 2012, he told the story of how
Group 15	10015	RT @AnnCoulter: Hey, Republicans! Anyone want to look at this? HUNTER BIDEN BOUGHT A \$2.5 MILLION HOLLYWOOD HILLS HOME IN JUNE FOR \$14,00
Group 16	9967	RT @VicToensing: Lying @washingtonpost. Wrote absolutely false editorial about hubby and me. @RudyGiuliani had nothing to do with our being
Group 17	9892	RT @charliekirk11 Joe Biden says he would put fossil fuel executives "in jail" Would that include his son, Hunter, who sat on the board o
Group 18	9510	RT @charliekirk11 Iran lied to America and the west Iran funds terror against America and Israel Why did Obama and Biden send them \$1 bi
Group 19	9509	RT @MollyNagle3: Wow-quite the start to @JoeBiden's second event in NH. A man from the back of the room calls Biden a "pervert" and accuses
Group 20	9477	RT @charliekirk11 Everywhere Joe Biden was involved as VP, his family got richer Ukraine-Hunter Biden got \$83,333 a month from Burisma C





Fake Followers Audit

Twitter Account:

atwitter

Run Audit

Fake Followers Audit for @charliekirk11



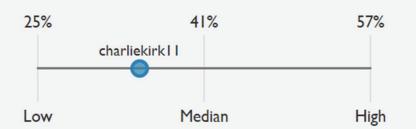
Charlie Kirk

@charliekirk11

1,556,026 Followers

34.8% (541,497) Fake Followers

This tool defines "fake followers" as accounts that are unreachable and will not see the account's tweets (either because they're spam, bots, propaganda, etc. or because they're no longer active on Twitter).



Accounts with a similar sized following to @charliekirk11 have a median of 41% fake followers. This account has fewer fake followers than most.

Inactive for 120+ days % of our sample accounts that have not tweeted in over 120 days.	7%	Inactive between 90 and 120 days % of sample accounts that haven't tweeted in the last 90-120 days.	1%
New Twitter User % of our sample accounts who have created their account in the last 90 days.	41%	Default Profile Image % of sample accounts that use Twitter's default profile image.	20%
Display Name % of sample accounts whose display name matches spam- correlated signals.	42%	URL Issues % of sample accounts that have no url or a non-resolving url in their profile.	92%
Location Issues % of sample accounts using a location that does not match any known place name.	60%	Number of Tweets % of sample accounts aged more than a year with a very low number of tweets.	29%
Over Sharing % of sample accounts that sent an abnormally large volume of tweets each day.	13%	Times Listed % of sample accounts that are on an unusually small number of lists.	97%
Number of Followers % of sample accounts that have a suspiciously small number of followers.	71%	Number Following % of sample accounts that follow an unusually small number of accounts.	58%



Starter

Get the ball rolling!

All Scheduling and Automation Features

10 Social Accounts

Top 8 Social Media Platforms Premium Customer Support

 $^{\$}29.95_{\text{/month}}$

Start Free Trial

*No credit card required

Regular

Our most popular plan!

All Scheduling and Automation Features

30 Social Accounts

Top 8 Social Media Platforms Premium Customer Support

\$49.95_{/month}

Start Free Trial

*No credit card required

Professional

Time to scale up!

*

All Scheduling and Automation Features

70 Social Accounts

Top 8 Social Media Platforms Premium Customer Support

\$69.95_{/month}

Start Free Trial

*No credit card required



Social Star
For the Sailing Master

\$3.99 /month

- 1 Twitter account
- Up to 1 automation
- Up to 100 likes per day
- Up to 50 follows per day
- · Auto unlike and unfollow

Small Agency Quartermaster's Pick

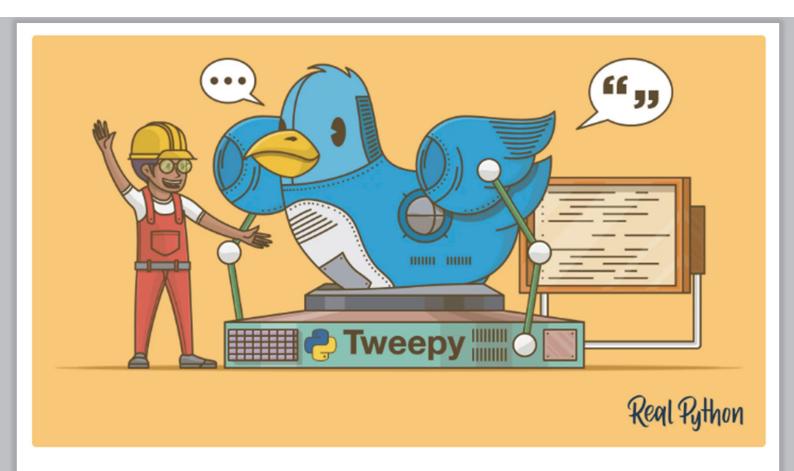
\$15.99 /month

- · 3 Twitter accounts
- · Up to 3 automations
- Up to 200 likes per day
- · Up to 100 follows per day
- · Auto unlike and unfollow

PR Guru Ahoy First Mate!

\$55.99 /month

- 5 Twitter accounts
- Up to 10 automations
- Up to 400 likes per day
- Up to 150 follows per day
- Auto unlike and unfollow
- Strategy Reviews



How to Make a Twitter Bot in Python With Tweepy

by Miguel Garcia ② Jun 10, 2019 🥥 65 Comments 🦫 api docker intermediate



Category V

129 Services Available

Service Options ~

Seller Details ∨

Delivery Time ~

Budget v

Pro Services



Online Sellers

Sort by Relevance >

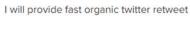




★ 3.0 (2)

STARTING AT \$5





STARTING AT \$20



malisha124

I will provide organic twitter retweet

STARTING AT \$20



seu_pole

I will add permanent 200 retweets

STARTING AT \$5





I will make twitter like and retweet animations





I will promote your twitter to a large audience

TWITTER 500 RETWEETS



I will provide fast organic twitter retweet



humanissocial

I will give you tips and tricks for improving on twitter



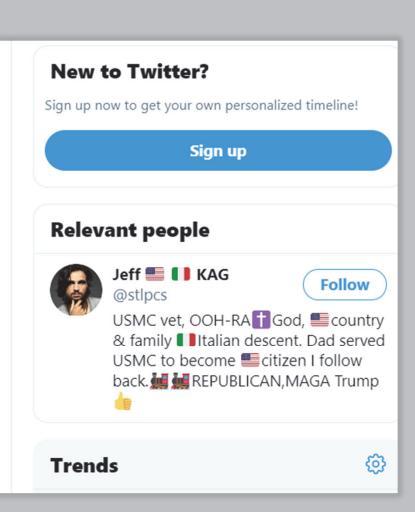
No rider train
IF YOU STAND STRONG FOR TRUMP
Add comment with twitter @ name
so others can follow you.

FRETWEET THIS tweet

Follow everyone on page & re-tweeters 🗓 😃



I will retweet all comments



ПРОВЕРЕННЫЕ ПАРТНЕРКИ

ТИЗЕРНАЯ РЕКЛАМА

КОНТЕКСТНАЯ РЕКЛАМА

POPUNDER & CLICKUNDER

БАННЕРНАЯ РЕКЛАМА

НАТИВНАЯ РЕКЛАМА

SMS ПАРТНЕРКИ

СРА ПАРТНЕРКИ ИЛИ ОПЛАТА ЗА ДЕЙСТВИЕ

PUSH РЕКЛАМА

ADULT ПАРТНЕРКИ

ПАРТНЕРКИ ИНТЕРНЕТ - МАГАЗИНОВ

КАЗИНО, БЕТТИНГ И ПОКЕР ПАРТНЕРКИ

ВИДЕОРЕКЛАМА

FOREX ПАРТНЕРКИ

МОБИЛЬНЫЕ ПАРТНЕРКИ

10 сайтов для заработка на Twitter

Категория: Блог Просмотров: 6961

☆☆☆☆ Рейтинг 5.00 (3 Голосов)



Можно ли **заработать на своём аккаунте Twitter** или страничке в другой социальной сети? Если есть много читателей (друзей, подписчиков и т.д.), то вполне возможно. Основной инструмент получения дохода – размещать рекламу, которую увидит множество пользователей.



VKTARGET advertising system is engaged in posting information in all social networks. You can earn here by completing the following tasks: subscribe, retweet,

publish a post.

The post is published as follows: you must copy the text proposed in the task and paste it into your own Twitter account. A system for verifying the fulfillment of a task is provided. After receiving payment, you cannot cancel any actions performed, delete records, etc. There is an opportunity to earn on referrals attracted by a special link: the invitee is charged 15% of the referral income.

- Cost of action: from 0.45 rubles
- Number of tasks: a lot, and added during the day
- Minimal: 50 rubles

SOCIALTOOLS



SocialTools offers advertisers brand loyalty technology. Messages are not advertisements, but friendly advice,

the transfer of their own experience using the goods or services of the advertiser.

To make money on your Twitter account you need to fill out a profile, indicate in it the geography of residence, age, your interests, etc. After that add accounts on social networks. They are moderated. Further, the participant will be able to take into work those orders that are available to him in accordance with the available parameters.

The cost of action: from 2 rubles

Number of tasks: few

Minimal: 15 rubles

🖒 Лайки страниц

С помощью системы таргетинга Вы привлечёте аудиторию, которой будет искренне интересна публикуемая Вами информация.

♀ Покупка комментариев

Улучшайте репутацию и доверие с помощью всегда лояльных к Вам пользователей.

Page Likes

With the help of the targeting system you will attract an audience who will be genuinely interested in the information you publish.

Buying Comments

Improve your reputation and trust with the help of users who are always loyal to you.

📋 Покупка постов

Размещение материалов в популярных аккаутах позволит многократно увеличить узнаваемость Вашего продукта.

Лайки для сайтов

Повышайте посещаемость Вашего ресурса. Вы можете заказать лайки к любой странице в интернете.

Buying posts

Placing materials in popular accounts will significantly increase the recognition of your product.

Likes for sites

Increase traffic to your resource.

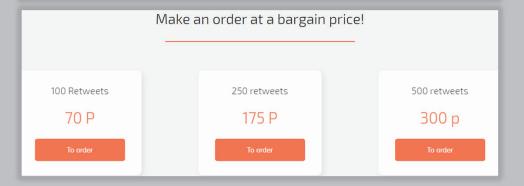
You can order likes to any page on the Internet.

Twitter Retweets

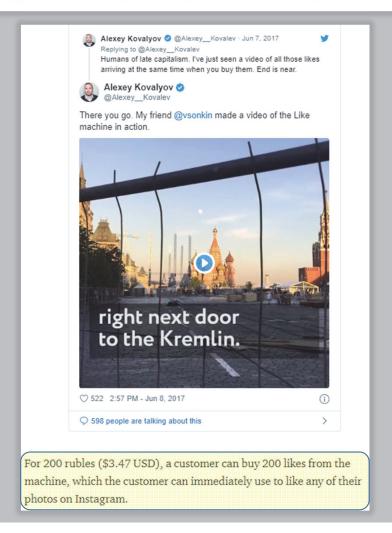
Twitter is a social network of microblogging that allows you to share with other short messages. No wonder musicians, artists, politicians, companies love this social network so that they can briefly and clearly talk about the main thing. And if it is important for you to have many followers, retweets, favorites (likes) - our service will help you!

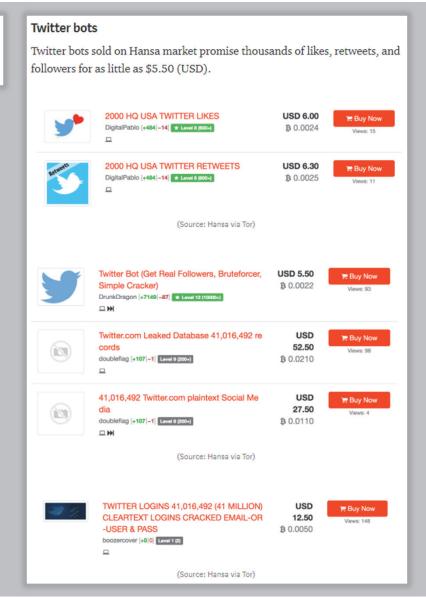
Покупка ретвитов Twitter

Twitter - социальная сеть микроблогов которая позволяет делится с другими короткими сообщения. Недаром музыканты, артисты, политики, компании так любят эту социальную сеть, чтобы можно было коротко и ясно рассказать о главном. И если вам важно иметь много фолловеров, ретвитов, избранное(лайков) - наш сервис вам поможет!



<u>Donara Barojan</u> is a Digital Forensic Research Associate at the @DFRLab. Follow along for more in-depth analysis from our #DigitalSherlocks.





Our findings about bots on the Dark Web (so far)

Various forums (e.g., Reddit, BlackHatWorld) agree that there is nothing spectacular or out of the ordinary when it comes to social media growth services since the "Clearnet" has enough widely available lightly regulated sketchy, semi-legitimate, and legal services already.

Why Look At Bios?

- To better understand Twitter users' purported:
 - ideologies,
 - networks,
 - influencers,
 - affinities, and
 - demographics.
- To identify tactics for:
 - legitimate forms of political organization,
 - automated, semi-automated & human network development, and
 - trolls and bots performing illegitimate election interference.

Followers Following



US Patriot

@Love_USA56 Follows you

Follow

#MAGA#RetiredUSAFMSgt #LGBTQally#Q #ImpeachmentSham #AmericanPatriot #TrumpIsTakingDownTheWorldWidePedoRing #StopHumanTrafficking#QAnon



Mark Schumacher

@MSchumacher Follows you

Follow

These are the times that try men's souls...T. Paine. #FormerFetus #10A #2A #Israel #SOT #DrainTheSwamp #LimitedGovernment #EnumeratedPowers #KAG



Cal Patriot - ΜΟΛΩΝ ΛΑΒΕ

@CalPatriot63 Follows you

Follow

Loyal Californian / American #Patriot #MAGA #KAG #WWG1WGA #QAnon #NRA / #CRPA / #GOA Member № # #2A #3PCT #RKBA #teaparty #MOAQNABE #IFBAP



Hermi

@Hermitzville Follows you

Follow

KAG, Patriot, Love God, family, friends & dogs. The Great Awakening, Q, Q+, Qanon, The Storm, Walkaway, WWG1WGA, Love memes, gifs & retweeting, IFB Patriots



Conchita Von Prank

@mami19180 Follows you

Follow

Mom-Wife-Conservative-Catholic-Pro-life-#2nd.-God and Country-Pro-Israel-#SisterPatriot #tgdn #MAGA #KAG2020



Denise

@Dlellis45 Follows you

I am a Patriot who Loves President Trump! TRUMP 2020



Davecatbone

@Daver2956 Follows you

Following

Following

#FBTS! #KAG #MAGA Deplorable Blues & Jazz Guitarist - Ardent supporter of President Trump and not tired of WINNING yet...



Vashon Deplorable

@D_Finch Follows you

Following

I enjoy family, grandkids, cats, and friends! #MAGA #Qanon #Qarmy



Shelly Beach

@ShellyBeachNZ Follows you

Following

Proud New Zealand Patriot back up account for Michele Beach @thebeachesNZ. Q Anon Follower, TRUMP FAN. NO TO GLOBALISM/SOCIALISM/COMMUNISM. WWG1WGA



David

@David05183618 Follows you

Following

Puerto Rican in Texas, Veteran, Trump supporter 100%. #Trump2020 and forever.



🐴 Angie Kyle 🕸 🕮

@akyle2009 Follows you

Following

Happily married. Mom of one. Freedom lover and fighter. Truth and Justice. Opinionated with the mouth of a sailor. #Trump2020, #MAGA, #KAG #WWG1WGA \(\old{O} \) DM's

	#AmericaFirst #AntiDemocrat #BuildTheWall #ProGuns #ProIsrael #ProLife #ProVet #MAGA #KAG	
2087	#ForeverTrumper! #RedBloodedAmerican #Trump2020 #God/#Family/#USA!!!	5
2088	#AmericaFirst #BackTheBlue #BuildTheWall #Christian #Conservative #KAG #Patriot #USAFVeteran	3
	#AmericaFirst #BackTheBlue #NeverForget Stand for Flag, Kneel before God. There is Right & Wrong.	
2089	Parents: Teach Your Children #MAGA #KAG #VoterID #BuildTheWall	10
	#AmericaFirst #buildthedamnwall #inTrumpItrust #GodBlessAmerica #KAG2020	
2090	#OneNatuonUnderGod	10
2091	#AmericaFirst #BuildTheWall #MadeInUSA #DrainTheSwamp #Constitution	1
2092	#AmericaFirst #Buildthewall #NoAmnesty	1
	#AmericaFirst #BuildTheWall #ProudPatriot & Field Engineer. I have been a Trump supporter since	
2093	the escalator. #MAGA #ProudDeplorable #WalkAway #GodBlessAmerica	26
	#AMERICAFIRST #BUILDTHEWALL #TRUMP #KAG #TRUMP2020 #MAGA #PATRIOT #CONSERVATIVE	
2094	#KAG #FBTS #POTUS #DRAINTHESWAMP stand for something or be known for nothing!	1
2095	#americafirst #buildthewall followed by @pastorDScott	1
2096	#AmericaFirst #CONSTITUTION #DestroySocialism	1
	#AmericaFirst #Deplorable #Clinger #Benghazi #Patriot #BuildKate'sWall #GenFlynn #Reagan	
2097	#Trump #MAGA #DraintheSwamp #NoSocialism #NoTyranny #No Deep State	3

	#ARMY #BanSharia #CONSERVATIVE #MAGA #FBTS #Constitution #1A #2A #VETS #TRUMP2020	
2273	#NRA #BuildTheWall #TRUMP #WWGA1WGA #DEPLORABLE #2ThumbsUpTrain	3
2274	#ARMY #Christ #USA #2A #Q #Wall #KAG #Trump #vet #III% #pizzagate #TRUTH	1
	#ARMY #Disabled #CHRIST_DISCIPLE	
	#HUMANBEING #SPIRITBEING	
	#MAGA #PATRIOT #VET #VETERAN	
2275	#CHILDRENOF_1_CREATOR #PEACEMAKER #DAUGHTERS_SONS_OF_GOD #WORLDPEACE	2
	#Army #FairTax #GayConservative #WalkAway #TermLimits #Constitution #2020Trump	
2276	#ElectoralCollege #BalancedBudget	1
	#ARMY #SFC #ENGINEER #VETERAN 21H4H 21B 21C 21V 21F 63D 5AAM 3ARCOM #OATHKEEPER	
2277	#LNYHBT #1A #2A #MAGA #KAG #MAGAveteran ズ us † € 🚵	2
	#Army #Vet Medical Corps ,Small Business owner retired, I block liberal nonsense,#Conservative,	
2278	#NRA, #MAGA #Veteran #2A #No List #TrumpTrain #KAG Not DATING	33
	#Army #Veteran, RN, Crossfitter. NY ♥ #MAGA #TRUMP2020 #1A #2A ususususus God & Country,	
2279	Happily Married to Military Man ♥us	11
	#ARMY Engineer Libyan survey team, #NRA, #PATRIOT, loving husband, dad and grandfather.	
2280	#TEXAS proud. #JESUS, #USA, ⊘DM. #MAGA, #TRUMP2020 ususus	1
	#ARMY Female #Veteran, Designer, Artist , #Christian, Mother, #Constitutional #Conservative, Love	
2281	my Dogs!	3
	#ARMY Medic #MAGAVeteran 91B 87-95 Married 28Yrs. Common sense PLEASE!! #MAGA #	
2282	codeofvets #PATRIOT #Tunnel2Towers #wwp #WWG1WGAѾ ♥ LIFE, Have FUN!! • us™%⊌	3

#Bernie #Nina #Tulsi #NeverHillary #FreePalestine #WikiLeaks #NoMoreWar #YemenCantwait	
#HandsOffSyria #Bernie2020 #HandsOffVenezuela #NoWarWithIran #ImWithKap	3
#Bernie 2020 he/him	4
#Bernie All doors are open to the believer. Patti Smith. J'en ai marre #demexit	22
#Bernie supporter.	
There isn't black or white, latino or asian America - there's the United States of America.	1
#Bernie2016	3
#Bernie2016 #Bernie2020 #feelthebern #BernieSanders2	2
#bernie2020	72
#Bernie2020	308
#Bernie2020 #AnimalRights ClimateChange. wildhorses. #palmoilkills Demexited	
#FreeSpeech #LegalizeIt.	2
#bernie2020 https://t.co/ALYTEFC9h1	2
#Bernie2020 #BernieSanders #NotMeUs	
People, Planet and Peace before Profit #GreenPartyUS	31
#Bernie2020 - #M4A - #GND - #FJG	
#Corbynite - #UKLabour	
Tracking progressive candidates who are running for office in USA. Read the pinned thread.	100
#Bernie2020 .Period	2
	#HandsOffSyria #Bernie2020 #HandsOffVenezuela #NoWarWithIran #ImWithKap #Bernie 2020 he/him #Bernie All doors are open to the believer. Patti Smith. J'en ai marre #demexit #Bernie supporter. There isn't black or white, latino or asian America - there's the United States of America. #Bernie2016 #Bernie2016 #Bernie2020 #feelthebern #BernieSanders #bernie2020 #Bernie2020 #Bernie2020 #Bernie2020 #AnimalRights ClimateChange. wildhorses. #palmoilkills Demexited #FreeSpeech #Legalizelt. #bernie2020 https://t.co/ALYTEFC9h1 #Bernie2020 #BernieSanders #NotMeUs People, Planet and Peace before Profit #GreenPartyUS #Bernie2020 - #M4A - #GND - #FJG

_		
	#Biden2020 #TheBidenFront #NeverBernie #NeverWarren #NeverPete #TeamPelosi #ImpeachTrump	
	#TheBidenBrigade	
2752	#BeatHimLikeADrum	117
	#Biden2020 #TheResistance #Resist #voteBlue #lifelongDemocrat #RegisterToVote #GOTV	
2753	#AmericansForImpeachment #JusticeIsComing #GoodTrouble	9
	#Biden2020 #StandWithJoe Stand with America Supporter of President Obama Business	
2754	Owner Wife Mother Sister #CountryOverParty	3
2755	#Biden2020 Run by @TomEllsworth3 & @HannahEllsworth	2
	#BIDEN2020 Married. Identical twin. Follow politics. Concerned about the U.S. and the world.	
2756	Member of the Biden Front 2. Vote in 2020.	62
2757	#BIDEN2020 Married; Mother, Bachelor of Science degree in Business from Franklin University	4
2758	#BidenHarris2020	33
	#BidensWheelHouse 2 #IContributedToJoeBiden #WithholdTheArticles #UkraineDocs #Obama	
2759	#banassaultweapons #climatechange #resist #Immigration #ACA	22
	#BidensWheelHouse 2 #IContributedToJoeBiden #3rdArticle #WithholdTheArticles #UkraineDocs	
2760	#Obama #banassaultweapons #climatechange #resist #Immigration #ACA	11
	#BidenWontBeatTrump #BernieCare #Atheist #Progressive #NotMeUs #VoteBlueDrWho You can't	
2761	#Resist with inside voices.	2

1	#MAGA	598
2	#MAGA #KAG	182
3	#MAGA #Trump2020 #NRA #Q	167
4	#MAGA #KAGus#NCus#TRUMP2020	136
	#MAGA, #KAG, #NRA, #1A, #2A, RN, GSW, Mother of a Marine, Semper Fi, Molon Labe us #WalkAway, My	
5	vote mattered in Michigan us #JohnJamesUSSenate us	75
	#MAGA #Trump2020 #Cult45 #WomenForTrump Us #Freedom #America #Patriot #KAG #CruzCrew Equal	
6	opportunity criticizer whether GOP or Democrat Wrong is wrong!	70
	#MAGAus@getongab	
	@M2Madnessus@sxdocus@C_3C_3	
7	@LisaMei62us@Catturd2us@IPOT1776us@KayaJonesus@GENFLYNNus@KTHopkinsGB	68
	#MAGA #KAG #NRA #censorship #FreeOwen #FreeRogerStone	
8	#WINNING #FreeLauraLoomer #FreeAlexJones #FreeAssange #PardonFlynn	67
	#MAGA/#KAG, TRUE BLUE AMERICAN #Cult45 member, A real #DEPLORABLEDREG 🗟	
9	⊕⊕⊕#standwithhongkong	60
10	#MAGA us	59

***loves Jesus, my incredible Husband, my wonderful Sons their amazing wives, our beautiful	
Grandkids, Pres.Trump and loves Israel #MAGA. #KAG #StopTheSteal	2
****StandWithFlynn***	
#MAGA∰#KAG∰#TRUMP2020	
↑ Thankful for Digital Soldiers	
❤Jesus Husband Family ★Rescue	
☑ Eph2:10 Created for good works	6
***We're pissed and we coming for you. WE COMING FOR YOU ALLBunch of freaking	
CRAZIES. Wus W	10
****	1
*₩ #MAGALR	1
	2
	7
≰ We are infinite love	6
🕏 góa sī sai pak hōo。 góa ē-hiáu siá Tâi-bûn. Ethno-nationalism for Taiwan.	
追求以色列利庫德模式IL單一民族國家。NF主張台澎共同體排中立台,法理台灣人自決建	
國,結束中華民國二族假合共和體制。	1
→ The Rain Makers ↔	
Rain Makers Unite 🕈 us	
им MAGA ♥ The Great Awakening	
2 QAnon us	
им TrumpWorld	
2 WWG1WGA	3
♣TRUMP2020 This President is blowing up the swamp! GOD keep DJT safe , pray for Him	
PORN or DM. God bless the USA.	2

Navy disabled vet h8 45 #resist #resistance	
Vermont Law School and Sun Devil graduate #adoptdontshop	1
ProudDemocrat Votes for Compassion, peace, equal rights, & healthcare for all. Luv old	
movies∰British mysteries ▲♀▲♂yellow flowers ❖ ♀ animals፻፻፻፡ 媛chocolate☺.	2
Resister us#Impeachandremove	
Warren2020 or any functioning adultⓒ	
no DM's please, will block 45 supporters	7
AAAStop TrumpAAA	1
AAATrump is NOT my President AA#Resist.	1
AAAWife, mother, activist, cannabis enthusiast, Democrat, passionate about Fairness, Equality,	
Justice #Resist!	1
AAA ⁵⁰⁵	9
AAA Sos #TheMFisImpeached SEVERE Allergy BS Sos #RESIGN SOS #BlueWave2020 SOS #Resist SOS	
#FBR ₩VoteOutAllComplicitGOP! Send 45 to RUSSHER! Set 44 FOREVER	4
AAAA	4
ARAK #IMPOTUS #LGBTQAlly #Resist #BLM #GreenNewDeal #Unions ARAK #GunSafety	
#NoKidsInCages UU Free Thinker	1
Retired US Army Master Sergeant. Grandmother. Resister. Happily married for 37 years.	
Christian. New account after being suspended!! Potty mouth!!	4
AAAA	
#RememberInNovember	3

Us Trump 2020 Us ■ I Love My Country Conservative 100	12
USM ATA	10
Usa ★ Us#TrumpUs#KAG2020♥ #TrumpTrain!!! God is good ALL the time! #	
NRAus#Buildthewall♥us #MAGA #BeBest	3
usatrumP2020. #MAGA #WWG1WGA usS ##The Great Awakening #QAnon #Space Force NO	
Personal DMS.	1
USIT	1
US∰US #MAGA #TRUMP2020LANDSLIDE @US® ♥ 🗸 #USAALLTHEWAY® 🗟	6
us∰ #KAG 🛮 #IStandWithTrump #Prolife Grandma Mom Wife & Friend	5
Us∰ The Danger of Silence? The Presumption of ConsentI will not retreat quietly! ✿✿Pro-	
Life ☆☆ ##MAGA * #KAG * #WWG1WGA * #FreedomCaucus * fb @GenFlynn	2
us₩ Joined on the Day of Covfefe If you disrespect @POTUS & @FLOTUS, you disrespect	
America! ♥@GenFlynn @ScottPresler @Education4Libs #BoomersRule!	9
us\times t land 1970 Old Army Vet. Grad. Univ. Mont. 1970. B.Adm.&Econ, Happily Married same wife 36 yrs. #	
CHRISTIAN #DEPLORABLE #TRUMP #PATRIOT #KAG2020 #TheGreatAwakening	1
us You found me!usMAGA!! usMarried Father of 7, Pro Wall, Pro Life , Pro Jobs, Fighting The	
Good Fight. Always Seeking Truth & Justice.usus Pusus	1
US ♥️♣️@♂♥▲□♂®▶७♥©US	2

1
7
2
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1
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2
7
1
9

Bio Begins US Flag Emoji

Term	Count	↓F
maga		1,144
kag		600
trump		558
trump2020		389
wwg1wga		337
patriot		320
2a		299
conservative		275
god		245
proud		241
america		227
love		221
nra		219
american		217
president		206
country		167
buildthewall		132
qanon		127
kag2020		126

Based on 281,000 Unique Bios

Term	Count	↓ F
maga		35,096
trump		26,191
love		23,996
conservative		17,052
god		14,492
proud		14,461
kag		14,286
life		11,961
country		10,707
american		10,696
christian		10,269
patriot		10,004

Based on 281,000 Unique Bios

Term	Count	↓F
maga kag		7,682
trump supporter		4,289
president trump		3,257
husband father		3,234
happily married		2,635
god family		2,370
wife mother		2,211
1a 2a		2,123
god bless		2,027
proud american		1,889
love god		1,865
love country		1,827
donald trump		1,783

Based on 281,000 Unique Bios

Term	Count	↓ ₹
god family country		1,291
maga kag trump2020		973
god bless america		887
love god family		670
trump supporter maga		636
wife mother grandmother		609
president donald trump		590
support president trump		537
husband father grandfather		512
maga kag wwg1wga		420
trump maga kag		404
president trump maga		380
trump2020 maga kag		354
love god country		348
god country family		342
proud trump supporter		340

Bot Defender - Proof of Concept Scripts

- Prerequisites
- Basic Workflow (CSV file)
- Basic Workflow (DiscoverText API)
- Basic Workflow (Gnip Raw Json)
- Training and Re-training the model
- Individual Scripts

Prerequisites

- Python 3.6 or higher
- A Twitter Developer account with an application (https://developer.twitter.com/). You'll need the Consumer API keys as well as a set of Access token & access token secret pairs for the application.
- (if connecting to the DiscoverText API), you'll need your DiscoverText API key, API secret, hostname, username, and password

Bot Defender (Alpha)

There are two primary classifier types

- 1. an *n-gram* naive Bayes classifier model, which uses 2,3,4, and 5-gram models combined and results a probability score for two classes: bot or good
- 2. a neural network that takes as input:
 - p(bot) (from the n-gram classifier)
 - p(good) (from the n-gram classifier)
 - number of days the Twitter account has been active
 - average number of statuses per day
 - average number of followers per day
 - average number of following per day
 - the description length in number of individual terms
 - the number of "lists" in the description
 - (e.g. god, country, president would be considered a "list")
 - the number of hashtags used in the description
 - the number of URLs found in the description

K	1	N	0	Р
num_days	account_creation_date	statuses_per_day		following_per_day
18	1/16/2020 14:37	1766.055556	25.72222222	0
427	12/2/2018 23:40	1190.187354	27.84543326	6.255269321
1508	12/18/2015 5:21	1095.263926	13.88395225	2.413793103
26	1/7/2020 23:21	1093.730769	253.7692308	278.3076923
82			146.6463415	
	11/13/2019 10:33	1067.207317		161.304878
716	2/17/2018 0:30	915.5405028	19.9650838	15.62430168
906	8/11/2017 1:11	892.102649	263.7196468	1.415011038
14	1/19/2020 21:22	783.9285714	149.6428571	150.2142857
12	1/22/2020 18:13	764.3333333	28.33333333	48.08333333
1664	7/15/2015 4:38	727.2800481	19.97115385	18.81370192
215	7/3/2019 4:57	717.7627907	18.87906977	15.86511628
19	1/14/2020 21:58	691	13.15789474	25.05263158
491	9/29/2018 23:11	660.5824847	49.56619145	48.97352342
117	10/9/2019 15:22	653.8119658	220.3247863	200.6239316

N	0	Р
statuses_per_day	followers_per_day	following_per_day
225.1860465	321.2093023	326.1627907
106.4810127	304.164557	205.7594937
273.3333333	288	262.3333333
115.9534884	278.372093	289.6976744
287.9868421	247.1743421	164.6480263
425.7916667	241.125	262.375
370.2936508	239.3095238	236.2222222
732.6840731	229.8342037	1.660574413
75	210.5	177
41.0729572	195.7524319	1.854085603
158.5714286	190.2	192.6571429
134	181.6666667	233.3333333
400.0466667	166.42	179.8266667



CorinnaElite: Botometer score: 4.2/5. RT ratio: 98%. 2,500 tweets from last week. Media section contains the same pictures reposted, flowers, religious statues, and the American flag. This account overuses emojis and tweets in English and German. Likely a human using a bot. SuperElite Corinna = @CorinnaElite · Feb 3 Replying to @mmccart72425513 @EcomemoryGreen and 16 others Mal schauen, was sie zu meinem Problem meint. 1 1 SuperElite Corinna = @CorinnaElite - Feb 3 Replying to @mmccart72425513 @EcomemoryGreen and 17 others Das kann man laut sagen. Aber es ist schön hier bei euch allen. Daher bin ich auch gerne hier. ♥ 🎘 🧩 🙏 😇 💞 17 2 \bigcirc 5 SuperElite Corinna = @CorinnaElite · 1h Replying to @mmccart72425513 @Ecomemory1 and 17 others 🎽 🌕 🧶 🌉 🧩 🏺 I have been able to work as normal on Twitter since last night. That is very nice $\frac{1}{100}$ $\frac{1}{$ 17 3

<u>DoriMuetz</u>: Botometer score: 3.9/5. RT ratio: 100%. 6,500 tweets from last week. Media section contains political memes. Likely a bot.

Verbal abuse:



#Trump_Gal_2.0 Dori Fawn #MAGA @DoriMuetz

Replying to @SpeakerPelosi

Oh you Bitch..you tried to Impeach our President...how the hell else is he supposed to act...what you did by tearing up the speach was very low and classless...you lady are no team player or public servant..your wicked and your done..March 3rd...I hope your district retires you..

5:54 AM · Feb 5, 2020 · Twitter for Android

From BotCheck.me: Political bot or highly moderated account.

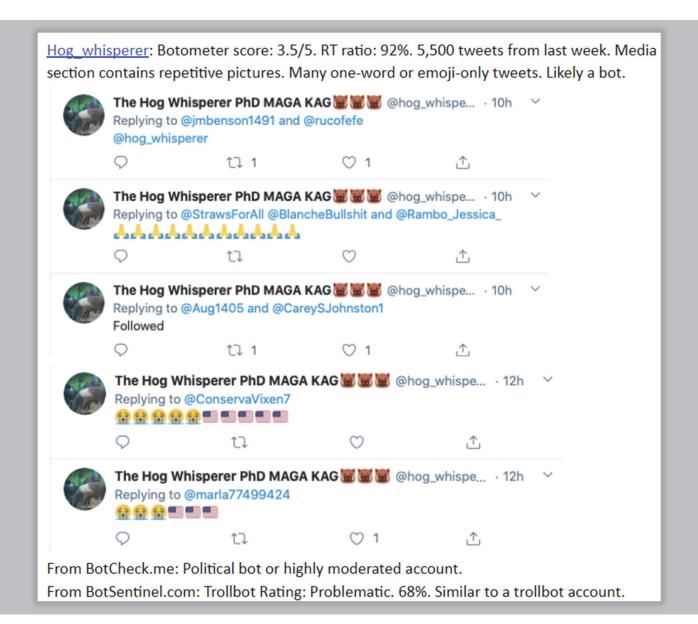
From BotSentinel.com: Trollbot Rating: Alarming. 82%. Trollbot account.

<u>BlueSea1964</u>: Botometer score: 3.7/5. RT ratio: 93%. 3,100 tweets from last week. Media section contains GIF reactions. Account's latest tweets are mostly GIF reactions and laughing emojis. Likely a bot.

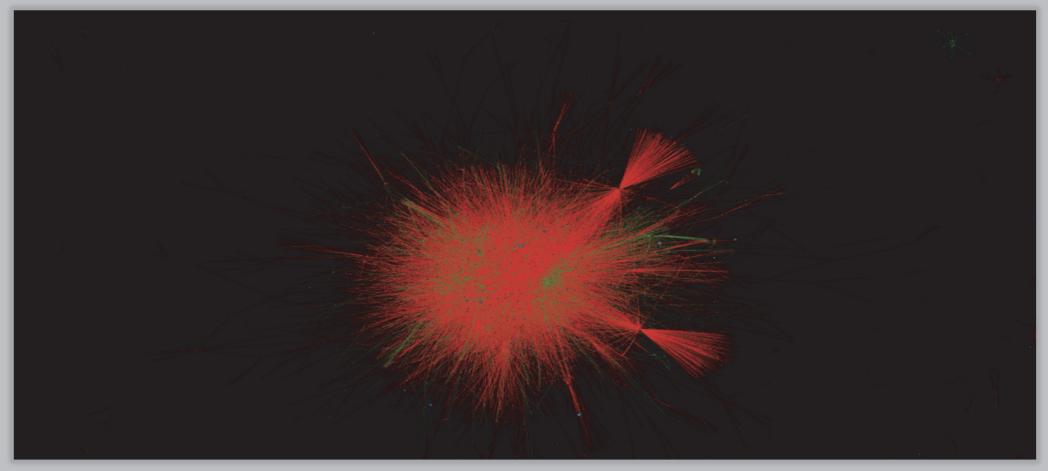


From BotCheck.me: Political bot or highly moderated account.

From BotSentinel.com: Trollbot Rating: Problematic. 53%. Similar to a trollbot account.



"WalkAway" Tweets in a local Neo4J graph database analyzed using GraphXR from Kineviz



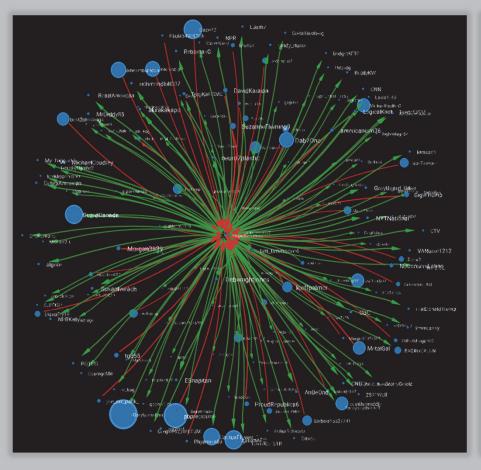
42,667 unique users, 262 websites, 108,727 relationships, 26,337 unique retweets, 8,081 unique mentions Relationships: green are mentions and red are retweets

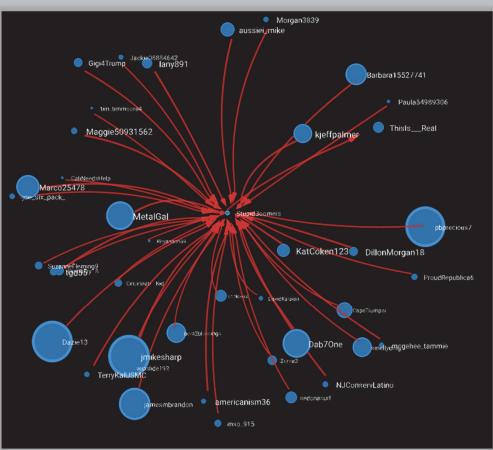
Drilling in to Explore Networks



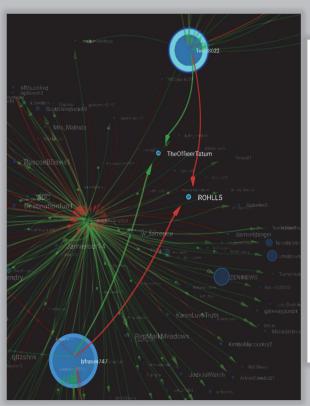


Network graph of @StupidBoomers and nodes that retweet

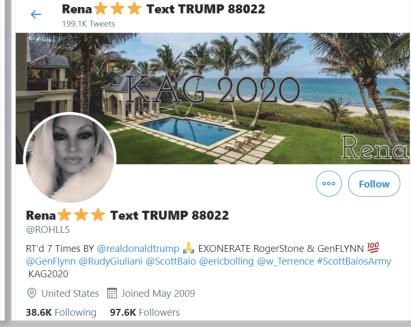




Social Networks Link Influencers to Likely Bots & Trolls Reinforcing the Reach of Both







Platform cooperation

Who can do this work



users participating in public forums.





TOW CENTER

By Jeff Hemsley

JULY 11, 2019

are restricting research vital to journalism

Technology & Ideas

Twitter's Misguided Barriers for Researchers

Access to a full range of tweets on some subjects is increasingly difficult and expensive.

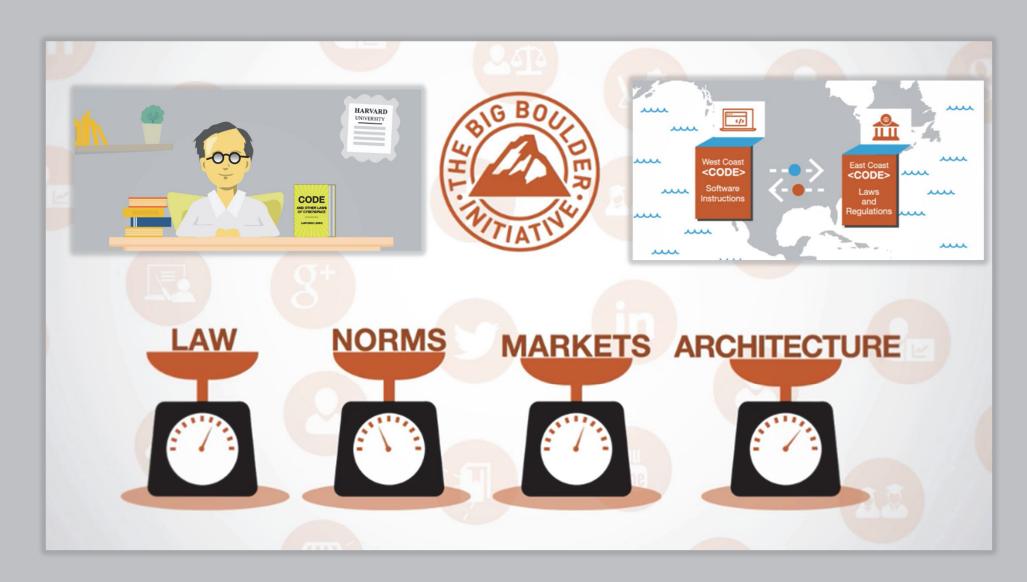
By Kara Alaimo

October 16, 2018, 11:00 AM EDT

Conceptual Article

"API-Based Research" or How can Digital Sociology and Journalism Studies Learn from the Facebook and Cambridge Analytica Data Breach

Pages 532-540 | Published online: 17 Apr 2019



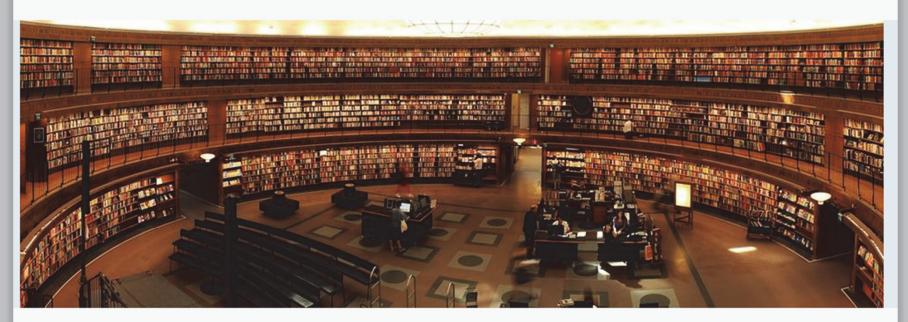
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Building Industry-Academic Partnerships

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Social Science One implements a new type of <u>partnership</u> between academic researchers and the private sector to advance the goals of social science in understanding and solving society's greatest challenges. Our mutually incentive-compatible approach enables academics to analyze and use the increasingly rich troves of information amassed by companies to address societal issues, while protecting their respective interests and ensuring the highest standards of privacy and data security.

A proposed game platform

Hunting bots & trolls, identifying Vets on a trajectory toward suicide, and stopping school shooters

What is the purpose of the game platform?

- It is a new way to think about:
 - Coding, labeling, and annotation
 - Using games to recruit top analysts
 - New layers of information security
 - Linking discreet tools in novel analytic processes
 - Building out the logic of CoderRank across new domains
 - Involving veterans who can serve in new ways

Game Principles: Initial Non-Proprietary Notes

Dr. Stuart W. Shulman | First Created November 7, 2019 | Updated February 5, 2020

1. Purpose

- Recruit and retain the best available players using a free, multiplayer public game.
- Start with training sets comprised of the Twitter followers and accounts followed.
- Invite trusted friends to work together to solve social identity problems.
- Build groups based on trust, teams based on winning, identities rooted in a cause.
- The primary goal is to authenticate social identities as a puzzle or quest.
- An application to report red flags to the platform about accounts that are potentially:
 - o Spies, bots or trolls interfering in elections by violating the law or platform rules;
 - o Teens, Vets, active duty service members on a trajectory to suicide; or
 - Cases of teenage social alienation on a pathway to school shooter violence.

2. Strategy

- Use the public version of the game to identify elite players for private games.
- Intelligence, language skills, domain knowledge, empathy, and other player traits rated.
- Visualize the properties and behavior of Twitter accounts in new ways:
 - De-identify representations that are Office of Sponsored Research compliant;
 - Create novel visualizations of account metadata, such as a synthetic bot score, using a neural network derived from account features such as status/day, Circadian rhythm, percent retweets, followers and followings per day, and other text and metadata features, including n-gram derived naïve Bayes classifiers;
 - Express, navigate, explore, and strategically engage with the most important realtime network actors, alone or in a team, to probe for signs of life; and
 - Access and visualize historical user and time-series network-formation data.

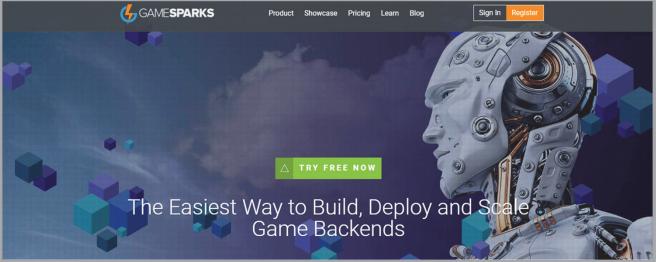
3. Structure

- Unlimited players versus limited players per instance.
 - Ex., <=10, OR <=50, OR <=100 in an infinite hierarchy challenge scenario.
- Optimized first for phones and gaming consoles, later for immersive VR technologies.
- Levels of network views and high-speed graphical navigation:
 - Individual and filtered network account visualizations,
 - Progress through the game to earn ranking and prizes.
 - In particular languages, networks, specific domains, for certain tasks.

4. Themes

- Context sensitive scenarios and visualizations, for example:
 - "Hunt" for malicious bots & authoritarian trolls, a defender of democracy,
 - o "Protect" family, friends, and peers, a lifesaving hero, or
 - o "Help" find and connect authentic communities, be a networking champ.







CONNECTED WARRIOR

AI & ANALYTICS

CYBER

IT INFRASTRUCTURE

UNMANNED SYSTEMS

RESOURCES EVENTS

CLOUD

NEWSLETTER

ADVERTISE



BY LAUREN C. WILLIAMS • OCT 08, 2019

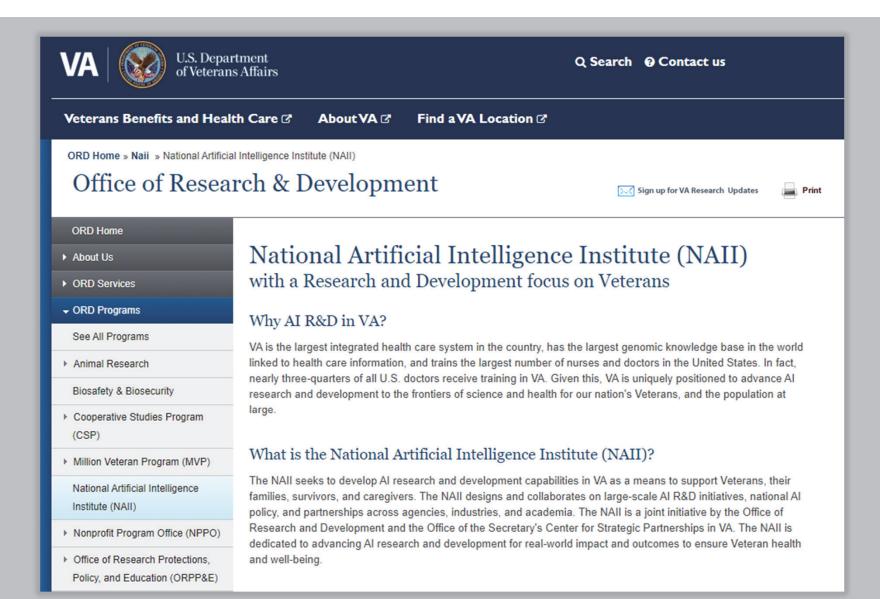
Gaming is becoming an official therapy tool for the Department of Veterans Affairs.

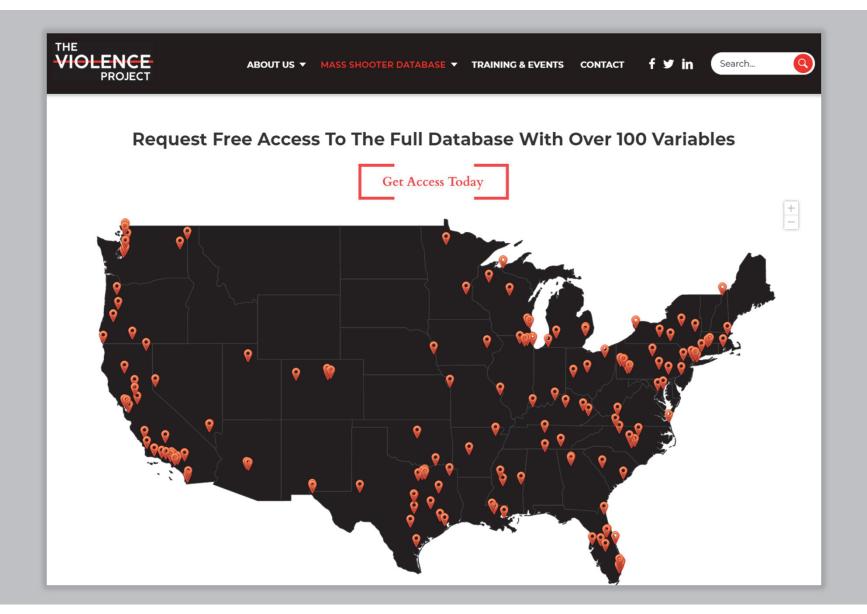


⊌ in a Q



How the Xbox Adaptive Controller is helping VA medical centers support veterans





Hunting Bots & Trolls

Humans and Machines Learning Together

Dr. Stuart W. Shulman