data-ppf.github.io 2020-04-21

lecture 13 of 14: present problems: 'data, money, and power'

chris wiggins + matt jones, Columbia

themes for today

themes for today

- the advertising model

themes for today

- the advertising model
  - role of data + algos

themes for today

- the advertising model
  - role of data + algos
- the vc model, esp for 'platforms'

themes for today

- the advertising model
  - role of data + algos
- the vc model, esp for 'platforms'
  - role of tech, including machine learning

themes for today

- the advertising model
  - role of data + algos
- the vc model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal

themes for today

- the advertising model
  - role of data + algos
- the vc model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal
  - money shapes, engine not a camera (esp @ scale)

themes for today

- the advertising model
  - role of data + algos
- the vc model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal
  - money shapes, engine not a camera (esp @ scale)
  - diversity + homophily

themes for today

- the advertising model
  - role of data + algos
- the vc model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal
  - money shapes, engine not a camera (esp @ scale)
  - diversity + homophily
- advertising+VC (growth-by-any-means-necessary)=information platforms

themes for today

- the advertising model
  - role of data + algos
- the vc model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal
  - money shapes, engine not a camera (esp @ scale)
  - diversity + homophily
- advertising+VC (growth-by-any-means-necessary)=information platforms
- (implicit) absence of consumer protections, including about personal data

bringing together last few weeks of class

bringing together last few weeks of class

- weak privacy protections for personal data (lecture 9)

bringing together last few weeks of class

- weak privacy protections for personal data (lecture 9)
- new machine learning and storage technologies (lectures 10-11)

bringing together last few weeks of class

- weak privacy protections for personal data (lecture 9)
- new machine learning and storage technologies (lectures 10-11)
- this week: new business models and $$$

student observations

student observations

```
243 attention/attention
100 goldhaber/ goldhaber’s/ goldhaber's
45 diresta/diresta’s
33 propaganda
21 venture
18 youtube
15 capital
13 facebook
12 instagram
11 algorithms
11 advertising
10 disinformation
8 1997
...
1 NELK
1 Troom troom
```

student observations: Goldhaber

Goldhaber's piece about attention economy, which is a completely new concept to me.

The term "attention economy" is completely new to me

Reading this quote honestly makes me feel icky! I think it gets at an idea we were exposed to at the beginning of this class, that big data gets uncomfortable when we realize it is about real people.

I want to take some power back as a giver by only paying attention to causes I really believe in.

student observations: VC

Long-tail investing implies that the returns of the biggest hits matter most; venture-financing model works best when technological uncertainty is high.

"move fast, break things" and prioritization of growth over cash for startups

student observations: solutions?

> *DiResta does not have a clear-cut answer as to how to cull the spread of disinformation on the internet*
>
> *I honestly started to feel a little despair. The incredible and predictable forces of virality engines seem impossible to regulate*

wait until next week! ("solutions")

readings: Goldhaber, Nicholas, Isaac, DiResta (optional: Serra+Schoolman, Grimmelman, Wiggins)

readings: Goldhaber, Nicholas, Isaac, DiResta (optional: Serra+Schoolman, Grimmelman, Wiggins)

(optional: Serra+Schoolman, Saxenian, Wiggins)

(additional texts referenced below, e.g.,

- "Yes, Big Platforms Could Change Their Business Models" By Zeynep Tufekci December 17, 2018)

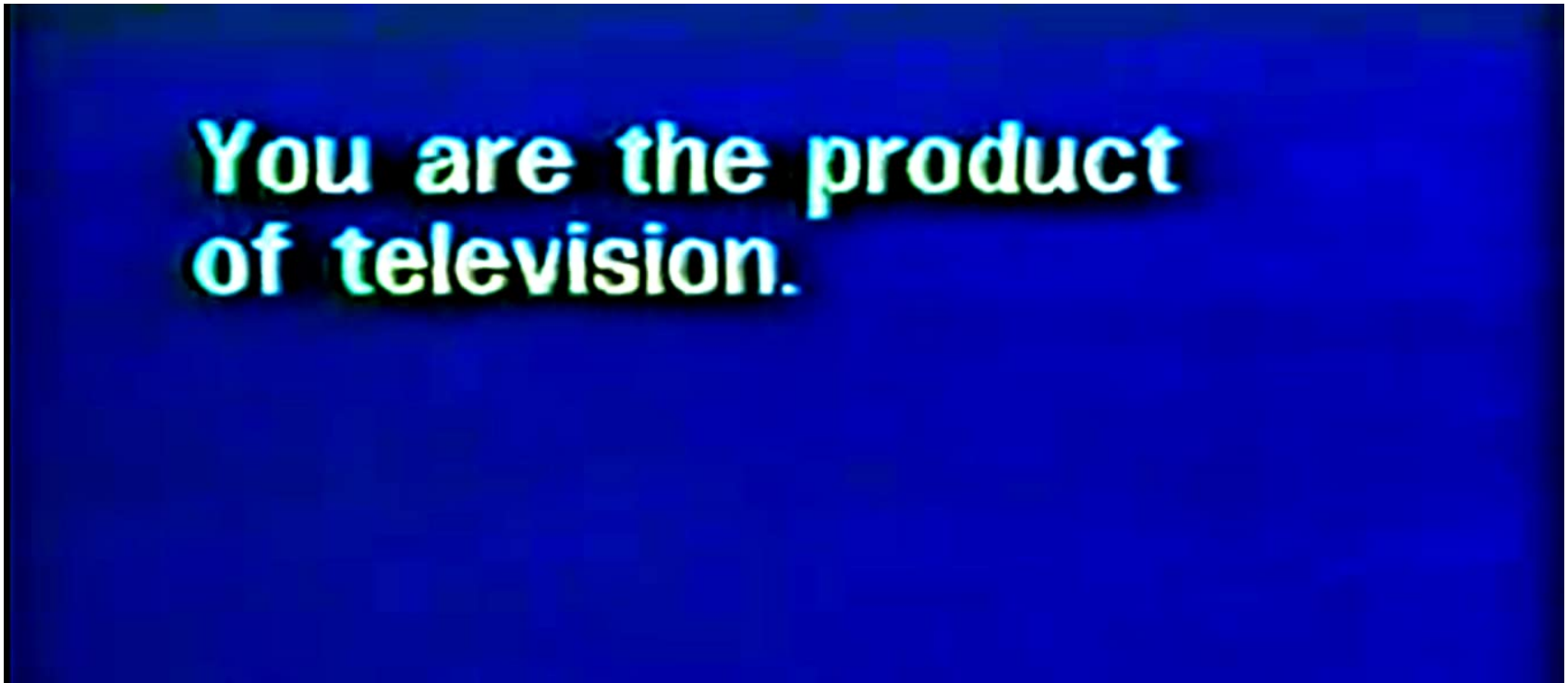
attention

(optional) Serra + Schoolman, 3/30/1973

```
CORPORATIONS ARE NOT RESPONSIBLE.
CORPORATIONS ARE NOT RESPONSIBLE TO GOVERNMENT.
CORPORATIONS ARE NOT RESPONSIBLE TO THEIR EMPLOYEES.
CORPORATIONS ARE NOT RESPONSIBLE TO THEIR SHAREHOLDERS.
```

. . . you are the product

- Television Delivers People, 1973



Simon on information and attention, 1971

> *[I]n an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.*

-Herbert Simon, Designing Organizations for An Information-Rich World, in *Computers, Communications, and the Public Interest*, ed. Martin Greenberger (Baltimore: Johns Hopkins Press, 1971), at pp. 40-41.

Back to Week 1: Value of Your Eyeballs

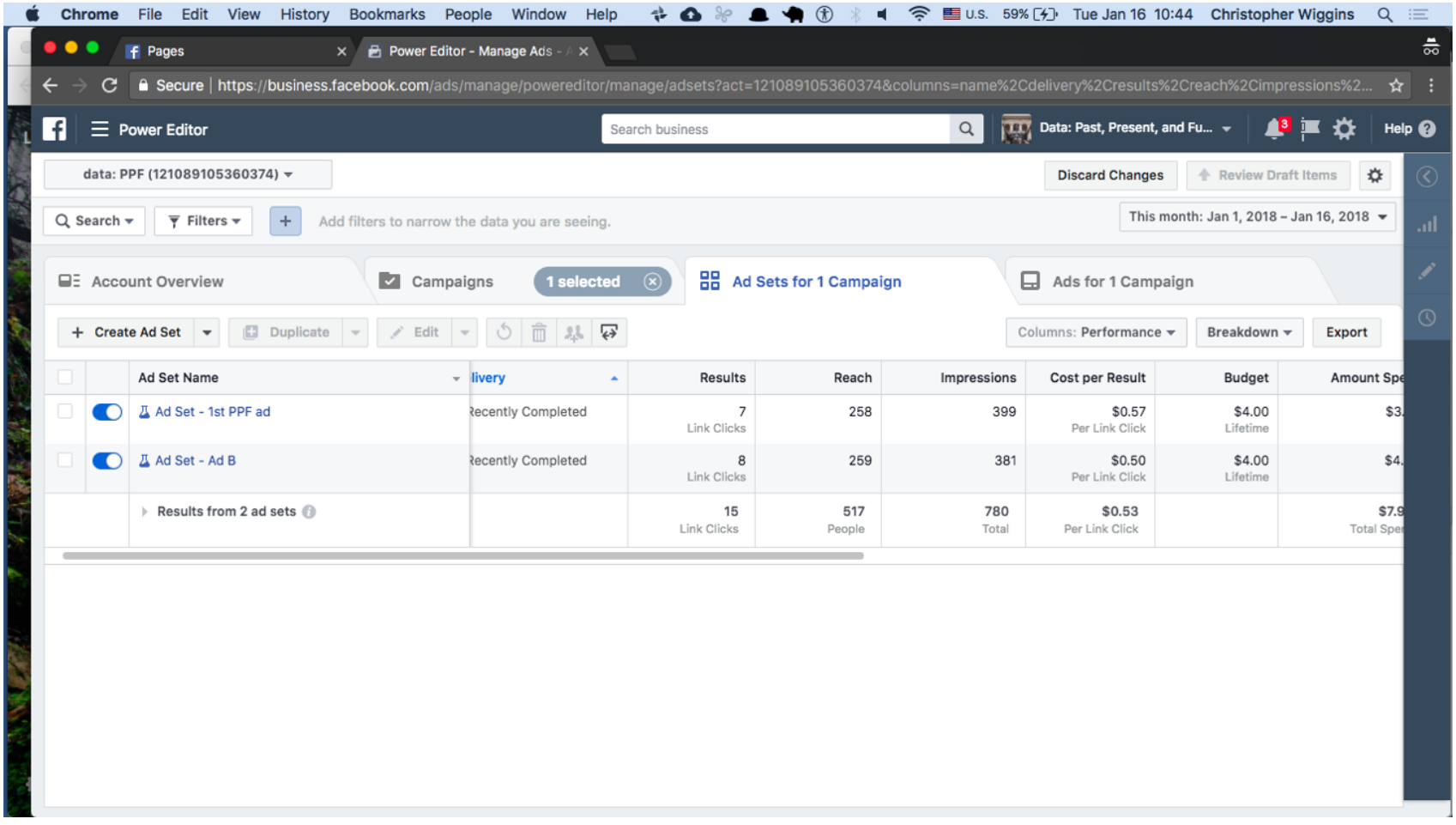


Figure 2: facebook_1

This Week: How We Got to Valuing Your Eyeballs

Figure 3: facebook_2

Goldhaber, 1997

First Monday, internet journal started 1996

Scarcity=value

Information, however, would be an impossible basis for an economy, for one simple reason: economies are governed by what is scarce, and information, especially on the Net, is not only abundant, but overflowing. . . . It is not in any way scarce, and therefore it is not an information economy towards which we are moving. . . . flowing in the opposite direction from information, namely attention.

attention, needs, and personalization

If you are still paying attention, ... I am addressing some need or desire that you now have. Thus it appears, in a certain sense that I am paying each of you attention individually, even though I can't really be doing that. . . . I am offering you individually the illusion of my full attention.

attention and productivity

There just is not enough work of the older kinds to keep us as busy as we once were. . . . Yet strangely, we are all busier than ever. . . . It is precisely because material needs at the creature comfort level are fairly well satisfied for all those in a position to demand them that the need for attention . . . takes on increasing importance. In other words, the energies set free by the successes of what I refer to as the money industrial economy go more and more in the direction of obtaining attention.

Organizations

- brand of employer -> brand of individual

Organizations

- brand of employer -> brand of individual
- money and attention:

Organizations

- brand of employer -> brand of individual
- money and attention:
  - substitution has not yet happened. . . .

Organizations

- brand of employer -> brand of individual
- money and attention:
  - substitution has not yet happened. . . .
  - . . . unless you count time (see Tufekci's point about phone minutes as currency)

Misc: e-books

At present, for instance, it is impractical to distribute books directly over the Net, though it is easy to foresee that need not be the case for long.

physical books will be seen as cumbersome and quaint

Misc: paywalls

So in the case of a book, the Internet should now be viewed as a useful and free publicity mechanism. Let passages be freely copied and circulated on the Net, because only if physical most of the time, the more of copying that takes place, the more customers there will be is more convenient than e for the physical printed version. If ou have a Web site, don't charge for it, because that will only reduce the attention it gets. If you can't figure out how to afford it without charging, you may be doing something wrong.

Venture Capital (VC)

VC infographic

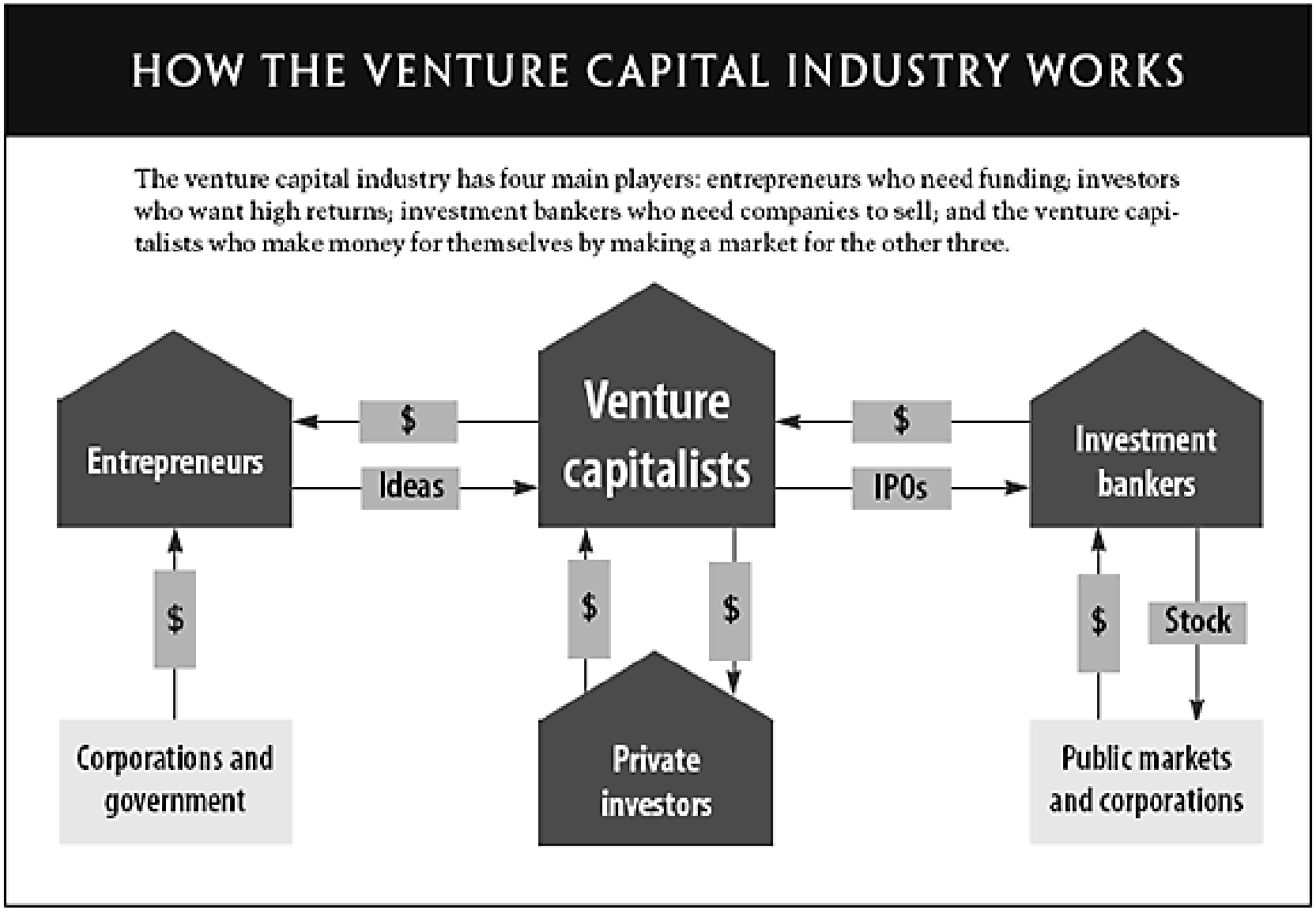


Figure 4: HBR infographic

VC/“risk capital” as model

- venture capital *shapes* the future by making possible transformations in technology and in markets which existing constraints and limits might otherwise prevent.

VC/“risk capital” as model

- venture capital *shapes* the future by making possible transformations in technology and in markets which existing constraints and limits might otherwise prevent.
- private investment in future revenue

VC/"risk capital" as model

- venture capital *shapes* the future by making possible transformations in technology and in markets which existing constraints and limits might otherwise prevent.
- private investment in future revenue
- expectation of risk+long term payout

waves of VC in Silicon Valley and beyond

- 1960s-1970s: microprocessors and memory (Intel)

waves of VC in Silicon Valley and beyond

- 1960s-1970s: microprocessors and memory (Intel)
- 1970s-1990s: personal computing (Apple)

waves of VC in Silicon Valley and beyond

- 1960s-1970s: microprocessors and memory (Intel)
- 1970s-1990s: personal computing (Apple)
- 1990s-2000s: e-business

waves of VC in Silicon Valley and beyond

- 1960s-1970s: microprocessors and memory (Intel)
- 1970s-1990s: personal computing (Apple)
- 1990s-2000s: e-business
- 2000s+: data driven attention economy

waves of VC in Silicon Valley and beyond

- 1960s-1970s: microprocessors and memory (Intel)
- 1970s-1990s: personal computing (Apple)
- 1990s-2000s: e-business
- 2000s+: data driven attention economy
- technical risk: can i use technology to differentiate my product in the marketplace?

waves of VC in Silicon Valley and beyond

- 1960s-1970s: microprocessors and memory (Intel)
- 1970s-1990s: personal computing (Apple)
- 1990s-2000s: e-business
- 2000s+: data driven attention economy
- technical risk: can i use technology to differentiate my product in the marketplace?
- market risk: is there demand in the marketplace for my product?

waves of VC in Silicon Valley and beyond

- 1960s-1970s: microprocessors and memory (Intel)
- 1970s-1990s: personal computing (Apple)
- 1990s-2000s: e-business
- 2000s+: data driven attention economy
- technical risk: can i use technology to differentiate my product in the marketplace?
- market risk: is there demand in the marketplace for my product?
- monopoly risk: can i simply buy the marketplace?

waves of VC in Silicon Valley and beyond

- 1960s-1970s: microprocessors and memory (Intel)
- 1970s-1990s: personal computing (Apple)
- 1990s-2000s: e-business
- 2000s+: data driven attention economy
- technical risk: can i use technology to differentiate my product in the marketplace?
- market risk: is there demand in the marketplace for my product?
- monopoly risk: can i simply buy the marketplace?
- see Saxenian for more

VC+PE: consequences, 2008-2019

- winner-take-all risk for new markets (including because of new tech)

VC+PE: consequences, 2008-2019

- winner-take-all risk for new markets (including because of new tech)
- e.g., iPhone/GPS

VC+PE: consequences, 2008-2019

- winner-take-all risk for new markets (including because of new tech)
- e.g., iPhone/GPS
- next week: revival of antitrust concerns, pre-Borkian

Nicholas on VC and America: themes

1. skew distribution/“long tail”

Nicholas on VC and America: themes

1. skew distribution/“long tail”
2. claim of mission

Nicholas on VC and America: themes

1. skew distribution/“long tail”
2. claim of mission
3. rose of US Govt

Nicholas on VC and America: themes

1. skew distribution/“long tail”
2. claim of mission
3. rose of US Govt
4. diversity and homophily

Nicholas: claim of mission

> *From a societal perspective, keeping the startup sector vibrant is per- haps the most important function the VC industry performs. Venture capitalists generate private value in the form of fund-level returns, but the social value they create surely exceeds that.*

cf:

> *Hooli is about innovative technology that makes a difference, transforming the world as we know it. Making the world a better place, through minimal message oriented transport layers.*

- Silicon Valley, S1E1

Nicholas on diversity, homophily

Can the VC industry reverse its abysmal record on diversity? This book's narrative has been largely a story of white males. . . . A 2014 analysis of leadership in the US ven- ture capital industry shows that, in the vast majority (52 percent) of top firms, women did not occupy any senior positions. ce at di ve an at . . . Black and Hispanic venture capitalists are vastly underrepresented in the industry.

In many respects, this lack of diversity is paradoxical because venture capital is based on the premise of financing radical, often revolutionary, change by non-incumbents. [possible] "taste-based discrimination" in favor of hiring men . . . what sociologists call homophily, or a preference for interacting with those "coming from the same group.'

Isaac

related:

> *Founder culture — or more accurately, founder worship — emerged as bedrock faith in Silicon Valley from several strains of quasi-religious philosophy.*
>
> *After Facebook went public in 2012, Zuckerberg maintained outsized influence due to a dual-class share structure*
>
> *There, in the back seat, Son took out an iPad and wrote out the terms for a $4.4 billion investment in the company. He drew two horizontal lines at the bottom, signed his name across one, and then handed the iPad to the then 37-year-old Neumann to scribble his name on the other. Neumann would keep a photo of the agreement on his phone. "When Masa chose to invest in me for the first time, he only met me for 28 minutes. Okay?" Neumann told me in January.*

- FastCompany on WeWork

Nicholas on skew and America

> *Final Thoughts . . . . The allure of the long tail represents the prospect of outsized re- turns with a right-sided skew that rarely materializes in reality. It signifies a cultural appetite for risk-taking that celebrates entrepreneurship's spirit of adventure, that accepts unbridled avarice, and that encourages the insatiable pursuit of material financial gain. In many ways, the history of the venture capital industry is a window into the larger history of America.*

Growth at all costs, free cash flow or consumer protection be damned (cf Uber, Airbnb, WeWork)

Related:

> *"The ugly truth is that we believe in connecting people so deeply that anything that allows us to connect more people more often is de facto good. It is perhaps the only area where the metrics do tell the true story as far as we are concerned"*

– Facebook VP Andrew Bosworth, 18 June 2016, as leaked to Buzzfeed

> *"Watch time was the priority. . . Everything else was considered a distraction."*

– (ex)-Google engineer Guillaume Chaslot, as quoted in the Guardian 2 Feb 2018, describing YouTube's recommendation engine's sole KPI

(start of Wiggins essay)

is VC a good idea? Chart from Tim O'Reilly

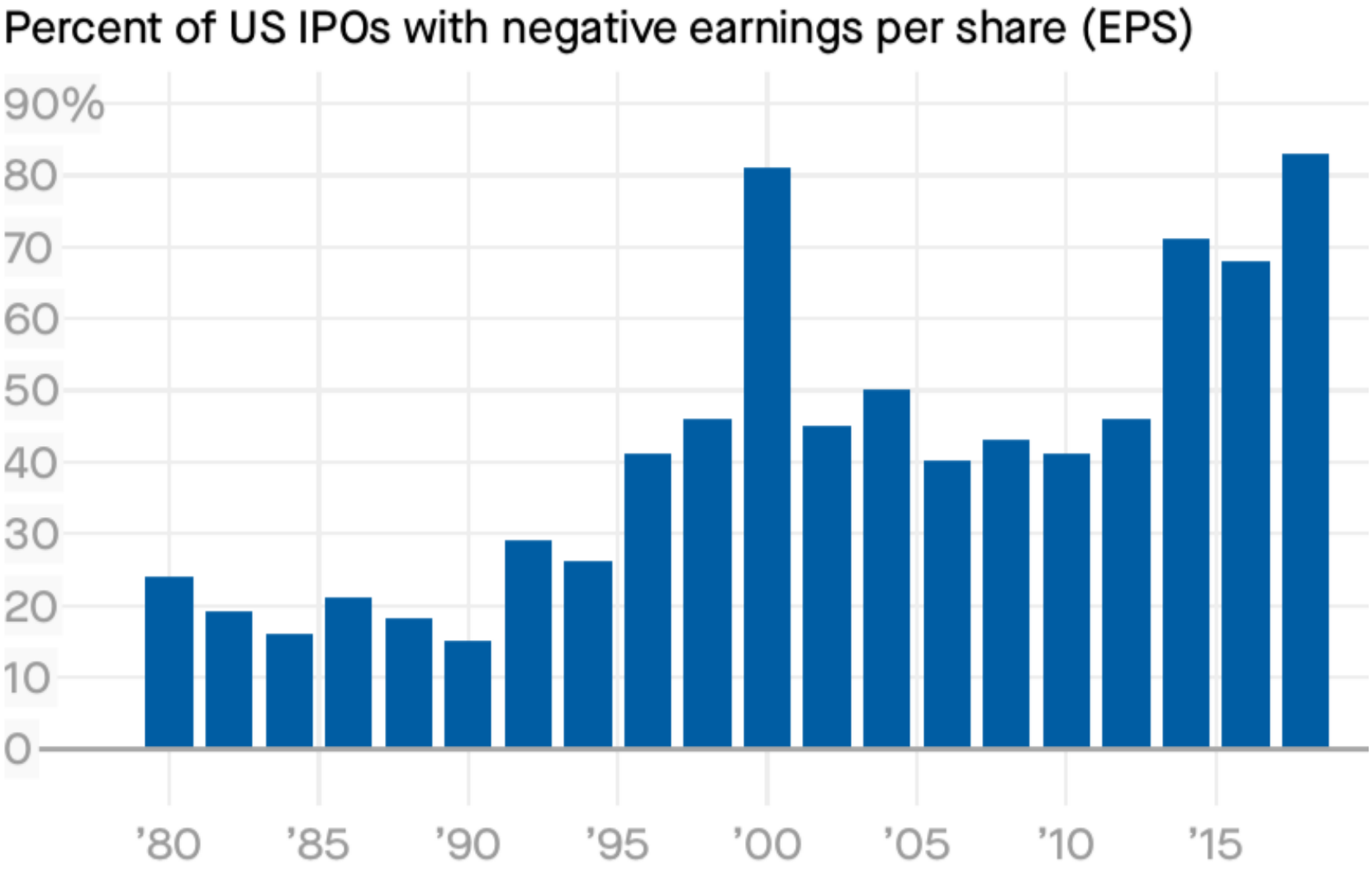


Figure 5: chart

DiResta

- update on Zeynep, via Bernays

DiResta

- update on Zeynep, via Bernays
- more on algo

DiResta

- update on Zeynep, via Bernays
- more on algo
- mis/dis info “the difference is intent”

DiResta

- update on Zeynep, via Bernays
- more on algo
- mis/dis info “the difference is intent”
  - original “intent” of internet/WWW:

DiResta

- update on Zeynep, via Bernays
- more on algo
- mis/dis info “the difference is intent”
  - original “intent” of internet/WWW:
    - www: democratize information

DiResta

- update on Zeynep, via Bernays
- more on algo
- mis/dis info "the difference is intent"
  - original "intent" of internet/WWW:
    - www: democratize information
    - internet: survive massive attack without central hub (DARPA)

DiResta

- update on Zeynep, via Bernays
- more on algo
- mis/dis info "the difference is intent"
  - original "intent" of internet/WWW:
    - www: democratize information
    - internet: survive massive attack without central hub (DARPA)
- continuum among govt, advertising, and information warfare

DiResta

- update on Zeynep, via Bernays
- more on algo
- mis/dis info "the difference is intent"
  - original "intent" of internet/WWW:
    - www: democratize information
    - internet: survive massive attack without central hub (DARPA)
- continuum among govt, advertising, and information warfare
- cf., "war is the continuation of politics by other means"

DiResta on money

- each chose the advertising model

DiResta on money

- each chose the advertising model
- “the original sin of the internet”

DiResta on money

- each chose the advertising model
- “the original sin of the internet”
- “glut” of info (cf. Goldhaber)

DiResta on money

- each chose the advertising model
- “the original sin of the internet”
- “glut” of info (cf. Goldhaber)
- cf. Goldhaber: individuals might seek attention as value

DiResta on algo/tech: 3 curatorial functions (algorithms)

- search

DiResta on algo/tech: 3 curatorial functions (algorithms)

- search
- trending

DiResta on algo/tech: 3 curatorial functions (algorithms)

- search
- trending
- recommendation

trend is true

1) epistemology: “black is white is trending” it’s true that it’s trending

trend is true

1) epistemology: “black is white is trending” it’s true that it’s trending
2) lose-lose for fact-based MSM: cover or not?

trend is true

1) epistemology: “black is white is trending” it’s true that it’s trending
2) lose-lose for fact-based MSM: cover or not?
   - cover w/o fact check: amplify

trend is true

1) epistemology: “black is white is trending” it’s true that it’s trending
2) lose-lose for fact-based MSM: cover or not?
   - cover w/o fact check: amplify
   - cover w/fact check: amplify to personalized, untrusting/conspiracy counter-narrative

trend is true

1) epistemology: “black is white is trending” it’s true that it’s trending
2) lose-lose for fact-based MSM: cover or not?
   - cover w/o fact check: amplify
   - cover w/fact check: amplify to personalized, untrusting/conspiracy counter-narrative
   - don’t cover: create personalized, conspiracy counter-narrative

algorithmic optimizing: money against truth

Advertisers and platforms alike drove the arms race of engagement tactics, pioneering clickbait and testing ever more innovative ways of targeting audiences to interact with ads. Through the power of analytics, the platforms and advertisers came to learn that content with high emotional resonance–including anger or outrage–performed better. . . . Eventually the ads became indistinguishable in form from the rest of the content on the platforms, and the views–clicks–actions tracking became increasingly more refined. Lookalike audiences appeared, based on an algorithm that ran correlations between people with overlapping interests and proclivities; they eliminated the need for advertisers to create their own demographic or interest-based targeting criteria.

Grimmelman

- the platform is the message

Grimmelman: advertising

The second is that since the platforms themselves are primarily advertising driven, they optimize their designs to maximize advertising revenue.[32] This typically means maximizing "engagement": staying on the site for as long as possible, continuing to read and watch. And this in turn means that platforms are carefully, constantly watching to see which content beats out its rivals in drawing attention. They're not neutral in this: they prioritize and promote the content most likely to grab users by the lapels. Facebook shuffles its News Feed; Twitter lists Trending Topics; YouTube suggests videos based on the current one and will even autoplay them after it ends.

Figure 6: advertising

Grimmelman: taxonomy

Digital social media have a few characteristics that intensify this old tendency. The first is simply speed: sharing on Facebook or Twitter is instantaneous. A meme can go viral in a matter of hours simply because it loses so little time each trip around the sharing loop. A second is scale: a tweet or a video can be visible to the world, and be seen by as many people click on it. A third is fidelity: the ten-thousandth person to retweet a GIF will pass along the same one as the first, which brings a measure of coherence to a meme.[27] A fourth is accessibility: almost anyone with Internet access can cheaply and easily post to them, which means that billions of people are potential creators. And a fifth is personalization: by tailoring what each user sees to content they are more likely to find appealing and share, a platform helps memes achieve critical mass in a localized community of interested users, like the reflector around a nuclear reactor bouncing neutrons back into the radioactive core.

Figure 7: Taxonomy

Grimmelman: poetic

Recommendation engines may only "supply" car crashes in the sense of suggesting that since you looked at that last one, here's another one you may be interested in watching. But in a world where attention is money and platforms find and focus attention, that's enough to incentivize others to go out and crash cars. Complaining about it doesn't help, either. Hate clicks are still clicks. The new virality machines can see inside your head, and they will make whatever it is you can't help thinking about. The Stay Puft Marshmallow Man comes for us all.

Figure 8: poem

Grimmelman and ‘content moderation’

- thin lines among thing, parody of thing, satire of thing

Grimmelman: kayfabe politics

- violence of thing, parody of thing, satire of thing, and kinetic

Tufekci

- problems and solutions

“best minds” quote

> *After a couple years at Facebook, Hammerbacher grew restless. He figured that much of the groundbreaking computer science had been done. Something else gnawed at him. Hammerbacher looked around Silicon Valley at companies like his own, Google (GOOG), and Twitter, and saw his peers wasting their talents. “The best minds of my generation are thinking about how to make people click ads,” he says. “That sucks.”*

https://quoteinvestigator.com/2017/06/12/click/

Tufekci on the problem & power

The few companies that control our digital public sphere — Facebook, Google, and Twitter — are all driven by the same fundamental business model, and it has only grown more pernicious over time. To microtarget individuals with ads, today's platforms massively surveil their users; then they use engagement-juicing algorithms to keep people onsite as long as possible. By now it's clear that this system lends itself to authoritarian, manipulative, and discriminatory uses: hiding job openings from minorities and older people; discouraging certain groups from turning out to vote; and allowing anyone with even a small budget to find audiences that are, say, anti-Semitic. It also creates an environment conducive to viral misinformation and hate speech.

advertising, politics, and 'Persuasion architectures'

As for dissidents: Yes, online platforms offer important alternatives to censored mass media across the globe. But authoritarians have figured out how to defang most of these benefits for activists, while adroitly using social media for their own ruthless purposes. Like other politicians and world leaders, Filipino strongman Rodrigo Duterte has received guidance from Facebook's staffers on how to get the most out of the platform. He has also made an art of using Facebook to viciously hound and harass his opponents. -Tufekci, 2019

Reminder of Tufekci's earlier readings (week 2)

Figure 9: Tufekci, week 2

Engineering consent: PR and politics

The rise of broadcast media altered dynamics of politics in fundamental ways. Public relations pioneer Edward Bernays explained the root of the problem in his famous "Engineering of consent" article where, discussing the impact of broadcast on politics, he argued that the cliché "the world has grown smaller" was actually false (Bernays, 1947). The world is actually much bigger and today's leaders, he pointed out, are farther removed from the public compared to the past. The world feels smaller partly because modern communication allows these leaders, potent as ever, to communicate and persuade vast numbers of people, and to "engineer their consent" more effectively.

Figure 10: Tufekci, week 2

Engineering consent: Bernays warned us

Bernays saw this as an unavoidable part of any democracy. He believed, like Dewey, Plato and Lippmann had, that the powerful had a structural advantage over the masses. However, Bernays argued that the techniques of "engineering of consent" were value–neutral with regard to message. He urged well–meaning, technologically and empirically enabled politicians to become "philosopher–kings" through techniques of manipulation and consent engineering.

> The techniques can be subverted; demagogues can utilize the techniques for antidemocratic purposes with as much success as can those who employ them for socially desirable ends. The responsible leader, to accomplish social objectives, ... must apply his energies to mastering the operational know–how of consent engineering, and to out–maneuvering his opponents in the public interest. [2]

Figure 11: Tufekci, week 2

Engineering consent: power, Tufekci warned us (2014)

Such effects are real and surely they are part of the story of the rise of the Internet. However, history of most technologies shows that those with power find ways to harness the power of new technologies and turn it into a means to further their own power (Spar, 2001). From the telegraph to the radio, the initial period of disruption was followed by a period of consolidation in which challengers were incorporated into transformed power structures, and disruption gave rise to entrenchment. There are reasons to think that the Internet's trajectory may have some differences though there is little reason to think that it will escape all historical norms.

Figure 12: Tufekci, week 2

Engineering consent: targeting, Tufekci warned us (2014)

and marketers

Tufekci

Unsurprisingly, targeting individuals as individuals rather as members of broadly defined aggregates has been the holy grail of political campaigns. Such efforts have been underway for decades. Culling informa from credit cards, magazine subscriptions, voter registration files, direct canvassing efforts and other so political parties, as well as private databases, have compiled as much information as they can on all indi voters. However, until recently, the collection of individual level data was messy and fragmented, and targeting was still on done by aggregate groups, which were simply based on richer individualized data t before. Much of this has changed with the rise of the Internet, which greatly increases the type and amo of individual data, and computational analytics, altering what information can be gleaned from these sou

Figure 13: Tufekci, week 2

Engineering consent: 2017

There's no question that the marketing and advertising world is ahead of the political marketing the political communications world. And there are some things that I would definitely [say] I'm very proud of that we're doing which are innovative. And there are some things which is best practice digital advertising, best practice communications which we're taking from the commercial world and are bringing into politics.

Figure 14: quote

Engineering consent: 2017

Nix:

There's no question that the marketing and advertising world is ahead of the political marketing the political communications world. And there are some things that I would definitely [say] I'm very proud of that we're doing which are innovative. And there are some things which is best practice digital advertising, best practice communications which we're taking from the commercial world and are bringing into politics.

Figure 15: quote

Engineering consent: 2017

Nov 6 10:07a

Cambridge Analytica CEO talks to TechCrunch about Trump, Hillary and the future

Figure 16: quote

power and principles

how did new capabilities rearrange power? who can now do what, from what, to whom?

role of rights, harms, justice?

foreshadowing data for Thursday

reminder of themes/big main takeaways

reminder of themes/big main takeaways

- the advertising model

reminder of themes/big main takeaways

- the advertising model
  - role of data + algos

reminder of themes/big main takeaways

- the advertising model
  - role of data + algos
- the VC model, esp for 'platforms'

reminder of themes/big main takeaways

- the advertising model
  - role of data + algos
- the VC model, esp for 'platforms'
  - role of tech, including machine learning

reminder of themes/big main takeaways

- the advertising model
  - role of data + algos
- the VC model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal

reminder of themes/big main takeaways

- the advertising model
  - role of data + algos
- the VC model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal
  - money shapes, engine not a camera (esp @ scale)

reminder of themes/big main takeaways

- the advertising model
  - role of data + algos
- the VC model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal
  - money shapes, engine not a camera (esp @ scale)
  - diversity + homophily

reminder of themes/big main takeaways

- the advertising model
  - role of data + algos
- the VC model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal
  - money shapes, engine not a camera (esp @ scale)
  - diversity + homophily
- advertising+VC (growth-by-any-means-necessary)=information platforms

reminder of themes/big main takeaways

- the advertising model
  - role of data + algos
- the VC model, esp for 'platforms'
  - role of tech, including machine learning
  - role of growth as de facto goal
  - money shapes, engine not a camera (esp @ scale)
  - diversity + homophily
- advertising+VC (growth-by-any-means-necessary)=information platforms
- (implicit) absence of consumer protections, including about personal data

up next

- 4/30: our future

up next

- 4/30: our future
  - corporate power

up next

- 4/30: our future
  - corporate power
  - state power

up next

- 4/30: our future
  - corporate power
  - state power
  - people power

appendix

appendix

- 2020-01-21 : 1 of 14 intro to course

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism
- 2020-03-03 : 7 of 14 WWII, dawn of digital computation

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism
- 2020-03-03 : 7 of 14 WWII, dawn of digital computation
- 2020-03-10 : 8 of 14 birth and death of AI

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism
- 2020-03-03 : 7 of 14 WWII, dawn of digital computation
- 2020-03-10 : 8 of 14 birth and death of AI
- 2020-03-24 : 9 of 14 big data, old school (1958-1980)

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism
- 2020-03-03 : 7 of 14 WWII, dawn of digital computation
- 2020-03-10 : 8 of 14 birth and death of AI
- 2020-03-24 : 9 of 14 big data, old school (1958-1980)
- 2020-03-31 : 10 of 14 data science, 1962-2017

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism
- 2020-03-03 : 7 of 14 WWII, dawn of digital computation
- 2020-03-10 : 8 of 14 birth and death of AI
- 2020-03-24 : 9 of 14 big data, old school (1958-1980)
- 2020-03-31 : 10 of 14 data science, 1962-2017
- 2020-04-07 : 11 of 14 AI2.0

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism
- 2020-03-03 : 7 of 14 WWII, dawn of digital computation
- 2020-03-10 : 8 of 14 birth and death of AI
- 2020-03-24 : 9 of 14 big data, old school (1958-1980)
- 2020-03-31 : 10 of 14 data science, 1962-2017
- 2020-04-07 : 11 of 14 AI2.0
- 2020-04-14 : 12 of 14 ethics

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism
- 2020-03-03 : 7 of 14 WWII, dawn of digital computation
- 2020-03-10 : 8 of 14 birth and death of AI
- 2020-03-24 : 9 of 14 big data, old school (1958-1980)
- 2020-03-31 : 10 of 14 data science, 1962-2017
- 2020-04-07 : 11 of 14 AI2.0
- 2020-04-14 : 12 of 14 ethics
- 2020-04-21 : 13 of 14 present problems: attention economy+VC=dumpsterfire

appendix

- 2020-01-21 : 1 of 14 intro to course
- 2020-01-28 : 2 of 14 setting the stakes
- 2020-02-04 : 3 of 14 risk and social physics
- 2020-02-11 : 4 of 14 statecraft and quantitative racism
- 2020-02-18 : 5 of 14 intelligence, causality, and policy
- 2020-02-25 : 6 of 14 data gets real: mathematical baptism
- 2020-03-03 : 7 of 14 WWII, dawn of digital computation
- 2020-03-10 : 8 of 14 birth and death of AI
- 2020-03-24 : 9 of 14 big data, old school (1958-1980)
- 2020-03-31 : 10 of 14 data science, 1962-2017
- 2020-04-07 : 11 of 14 AI2.0
- 2020-04-14 : 12 of 14 ethics
- 2020-04-21 : 13 of 14 present problems: attention economy+VC=dumpsterfire
- 2020-04-28 : 14 of 14 future solutions