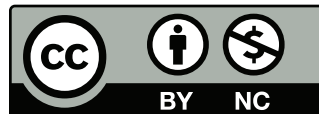


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# Organizations and Ethics



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## Should Corporations Act Ethically?

- Does a corporation have a legal right to act on moral principles?
- Do the shareholders benefit from this decision?
- Can morality be profitable, at least in the long run?

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## Fiduciary Duty

“A fiduciary duty is an obligation to act in the best interest of another party. For instance, a corporation’s board member has a fiduciary duty to the shareholders. . . .

“When one person does agree to act for another in a fiduciary relationship, the law forbids the fiduciary from acting in any manner adverse or contrary to the interests of the client”

(from <http://definitions.uslegal.com>)

But what does that *mean*?

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## Corporations and Ethics

- Companies can do good
- Companies can be evil
- Sometimes, they have to make a point of asking themselves whether they're doing good or evil
- Let's look at some cases

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## Google and China, 2006

- “Google Inc. this week will launch a Chinese search service, agreeing, after much internal debate, to censor its own search results” (Wall Street Journal)
- “Google’s chief executive, Eric E. Schmidt . . . said on Wednesday that the company had not lobbied to change the censorship laws and, for now, had no plans to do so. (NY Times)

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## The Law

- What is the obligation of a corporation (or person) to follow the law?
- When is breaking the law ethical? *obligatory*?
- If laws conflict, which law should be followed?
- “The subcommittee’s chairman, Representative Christopher H. Smith, Republican of New Jersey, plans to introduce legislation by week’s end that would restrict an Internet company’s ability to censor or filter basic political or religious terms—even if that puts the company at odds with local laws in the countries where it now operates.” (*New York Times, Feb. 15, 2006*)

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## Google and China, 2010

“Google Inc.’s startling threat to withdraw from China was an intensely personal decision, drawing its celebrated founders and other top executives into a debate. . .

“Mr. [Sergei] Brin has long confided in friends and Google colleagues of his ambivalence in doing business in China, noting that his early childhood in Russia exacerbated the moral dilemma of cooperating with government censorship. . . Over the years, Mr. Brin has served as Google’s unofficial corporate conscience, the protector of its motto ‘Don’t be Evil.’

“[CEO] Mr. [Eric] Schmidt made the argument he long has. . . that it is moral to do business in China in an effort to try to open up the regime. Mr. Brin strenuously argued the other side, namely that the company had done enough trying and that it could no longer justify censoring its search results.” (WSJ)

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## Twitter and Turkey

“Turkish officials threatened to shut down Twitter in the country unless the social-media company blocked the account of a left-wing newspaper. . .

“Twitter refused to block the newspapers account but did block specific messages that BirGun had posted showing images of leaked documents.”  
(NY Times)



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## Thailand and YouTube

“Thai officials have ordered Internet service providers to block access to content deemed undesirable to the government or monarchy. . .

“Google’s transparency report indicated they received two requests from July to December 2013 from Thailand’s Ministry of Information and Communication Technology to remove 298 YouTube videos that allegedly insulted the Thai royal family; Google did not comply because “the request was for global removals.” (International Business Times)

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## Cisco and China

“[A]ctivists say Cisco specifically designed this piece of technology to enable the Chinese government to track down dissidents. According to the Electronic Frontier Foundation, part of Cisco’s marketing presentation describing its technology’s benefits to the Chinese government said that one of the goals was to ‘Combat Falun Gong evil religion and other hostilities.’

“‘While a tech company could not (and should not) be held accountable when governments misuse general use products for nefarious purposes, early evidence indicates that Cisco did much more,’ the foundation said. This included actively customizing, marketing and providing support for its monitoring and censorship technologies even as it knew that they would be used to identify, locate, and surveil Chinese democracy and religious freedom activists.’” (AllGov)

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## “Pakistan Lifts Ban on Youtube After Launch of Own Version”

“Pakistan said on Monday it had removed a three-year ban on YouTube after the Google-owned video-sharing website launched a local version that allows the government to remove material it considers offensive.

...

“Google has provided an online web process through which requests for blocking access of the offending material can be made by PTA to Google directly and Google/YouTube will accordingly restrict access to the said offending material for users within Pakistan.’”

[http://www.reuters.com/article/  
us-pakistan-youtube-idUSKCN0UW1ER](http://www.reuters.com/article/us-pakistan-youtube-idUSKCN0UW1ER)

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## When Was Google Right?

- When they agreed to Chinese demands and entered the market?
- When they pulled out in 2010?
- What about refusing to cooperate with Thailand?
- Self-service censorship in Pakistan?
- What about Cisco and China? Were they simply complying with the law?

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## Sometimes Corporations Actively Sin

- Takata covering up airbag problems
- Volkswagen and its “defeat device”

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## Takata: Basic Facts

- Takata makes airbags for many Japanese auto manufacturers
- In 2004, one in a Honda exploded and injured a driver; it was deemed an “anomaly”
- But Takata knew all along that there was a real problem...
- (Facts taken from <http://www.nytimes.com/2016/01/05/business/takata-emails-show-brash-exchanges-about-data-tampering.html> and other NYT articles.)

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## Takata: Manipulating Data

- November 2000: discrepancies in test results; ruptures were reported as normal
- 2005: an American employee of Takata said that he'd been "repeatedly exposed to the Japanese practice of altering data presented to the customer"
- He replied that this had "gone beyond all reasonable bounds and now most likely constitutes fraud"
- "I cannot, in good conscience, fail to report these issues to you"

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## Continuing Manipulation

- He'd changed his tune a year later: "Happy Manipulating!!!"
- "Help disguise that some of the inflaters performed differently"
- "All the data is there"—but suggested "thick and thin lines to try and dress it up, or changing colors to divert attention"
- Takata denies that this is manipulation of the results
- Consultant: "If they would disguise inflater data sent to the customer, there is a serious problem with ethics within that company"



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## Volkswagen's “Defeat Devices”

- Car engines, conventional or diesel, are required to meet certain emission standards
- Often, achieving good emissions performance comes at a cost in performance and/or mileage
- VW apparently used “defeat devices”—special software, in this case—to make their cars perform differently during emissions tests than when on the road
- (Details from Trope and Ressler)

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## The Flaws

- Management demanded that infeasible objectives be met
- They wouldn't listen to bad news or dissenting views
- They created software to cheat and protected the software as a trade secret
- The chain of command was dishonest

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## A Strategic Push

- In 2005, VW decided it wanted to push diesel technology in the US. They also wanted to become bigger than Toyota world-wide.
- (The US has stricter diesel emission limits than Europe has)
- They could have licensed technology from Daimler—but incoming management (2006–2007) doesn't want to do that
- Their own engineers couldn't develop suitable technology
- They were warned by their software supplier that “it would be illegal to use engine management software . . . in production cars”

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## The Communications Environment

- If engineers report they can't deliver, the chairman said "I will tell them they are all fired and I will bring in a new team. . . . And if they tell me they can't do it, I will fire them, too."
- The CEO and chairman "created an autocratic, corrosive culture in which dissent and criticism weren't tolerated. [According to a former VW executive] "Workers and managers are afraid to speak the truth. . . . Dissenting opinions are at best ignored and at worst suppressed."
- Available evidence suggests but does not yet prove that upper management knew about the emissions problem

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## The Defeat Device

- There was already a test mode for development engineers
- Someone—who isn't known—wrote code that looked for steering wheel movements, since those don't occur during emissions tests
- If the steering wheel isn't moving, the defeat device is off and emissions are legal
- If the steering wheel does move, the test mode is engaged, raising emissions but improving fuel economy

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## What Went Wrong?

- We don't yet know the full story. There are civil and criminal investigations going on:
  - The United States efforts to learn the truth . . . were impeded and obstructed by material omissions and misleading information provided by VW (DoJ).
- Volkswagen did have a code of conduct, but it can be read as encouraging conformity
- Bosch (the software supplier) apparently suspected that VW might misuse test mode, and warned VW
- Someone chose to ignore the warning—but at what level?

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## How They Were Caught

- A group at West Virginia University found that emissions on the road were much higher than in the lab
- Volkswagen denied everything, and claimed that the study was faulty
- The researchers stood by their tests and notified the EPA
- The affected cars are being recalled and some may have to be repurchased by VW

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## Sometimes, the Problem is Deeper

- What if the ethical problem isn't deliberate misbehavior?
- What if the flaw is inherent in the product?
- That is, what if, unknowingly, a company stumbles into an ethical problem?



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# Algorithmic Bias

- Algorithms are not value-free
- An algorithm can *instantiate* biases
- This can happen even if the designers aren't aware of the issue
- In fact, sometimes the problem occurs *because* people are unaware of the issues
- This is especially true for today's very complex, data-driven algorithms

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## Google AdWords

- Many people search for other people
- Research suggests that if you search for names that are much more commonly associated with African-Americans, you'll see ads asking if you want to check their arrest records (research result by Latanya Sweeney)
- Is Google racist?
- Anyone can buy “ad words”—if the words appear in a search query, your ad will appear
- Likely cause: vendors of such services bought ads for such names

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## Who is at Fault?

- Clearly, the advertisers knew what they were doing
- Did Google realize it?
- What is Google's responsibility here?
- Should they do something?

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# Training Algorithms

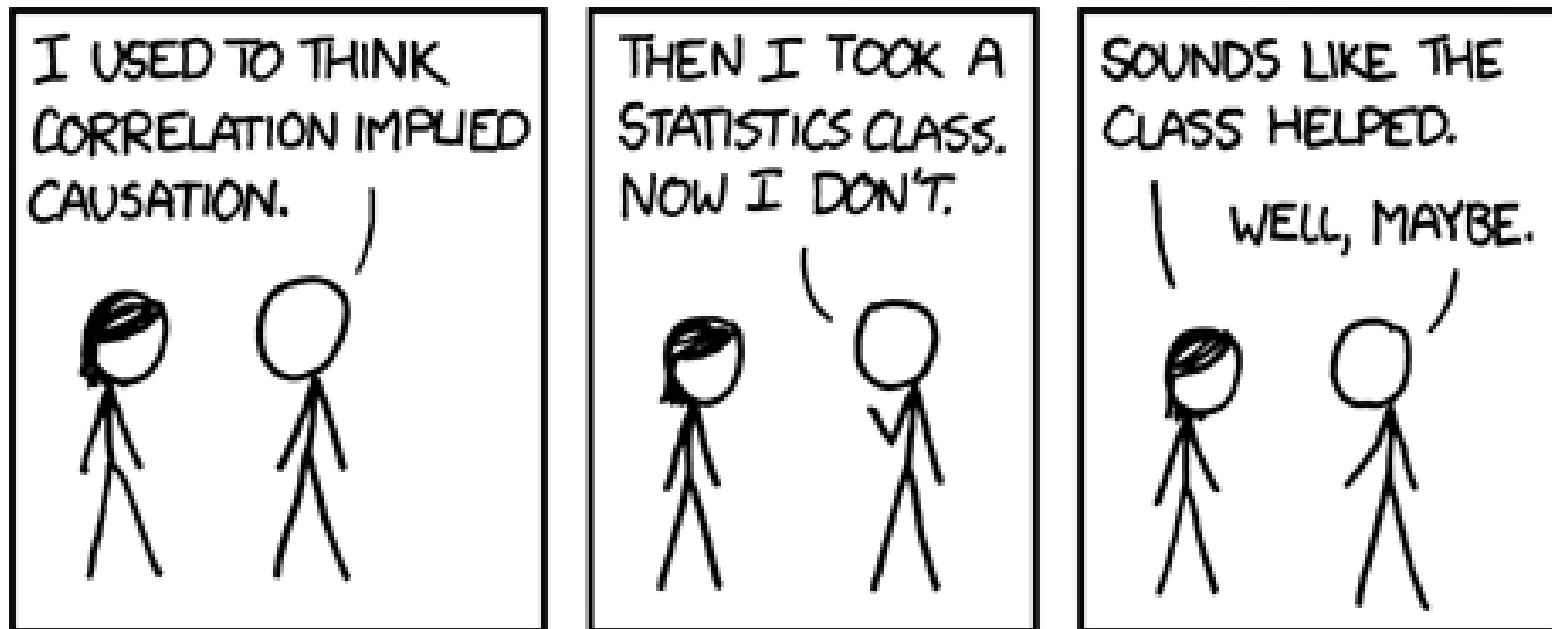
- Many algorithms are “trained” by feeding them known data
- (More on that later in the semester)
- Errors and omissions in the training data can lead to errors in the results

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## Bias Sources

- Training data that doesn't represent actual data
- Cultural biases by the trainers (e.g., via Mechanical Turk)
- False positives and false negatives

## Correlation, Not Causation



- Many of these algorithms find correlations, not causal relationships
- People looking at the output may misunderstand that

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## A False “Fact”



### Steven M. Bellovin

Researcher

Steven M. Bellovin is a researcher on computer networking and security. He is currently a Professor in the Computer Science department at Columbia University, having previously been a Fellow at AT&T Labs Research in Florham Park, New Jersey. [Wikipedia](#)

**Born:** Brooklyn, New York City, NY

**Education:** University of North Carolina at Chapel Hill, Columbia University, Duke University, Stuyvesant High School

I never attended Duke—but the other inventors of Netnews did...

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## Google Image Match

- Google Photos misidentified two African-American men as gorillas
- Jacky Alciné—a programmer and one of the people who was mislabeled—said, “I understand HOW this happens; the problem is moreso on the WHY.”
- Likely cause: not enough dark-skinned faces in the training dataset
- (Perhaps a similar cause: HP webcams couldn’t recognize dark-skinned faces)



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## Algorithms as Proxies

- Algorithms can find correlations that are proxies for other values
- Example: certain other items correlate with race
- Race cannot be used in making certain decisions—can these other fields?

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## Staples' Pricing Algorithm

- Staples' online pricing algorithm gave discounts to people who lived near a competitor
- Areas that received discounts tended to have *higher* incomes than areas that did not
- Note that income correlates with race

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## Lending

- Given housing segregation and income patterns, ZIP codes correlate well with race
- Can lenders use ZIP code in their decisions?
- That's explicitly forbidden ("redlining")—but are there other things that correlate with race but aren't related to ability to repay loans?
- Sure—and algorithms may find these *even without discriminatory intent*
- Legal issue: discriminatory intent or discriminatory effect?

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## Credit Scores

- Credit scores are supposed to indicate how likely you are to repay a loan
- They're used for other things, too, like insurance

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## The FTC on Credit Scores and Insurance

“This study examines the effect of credit-based insurance scores on the price and availability of automobile insurance and the impact of such scores on racial and ethnic minority groups and on low-income groups. Using a large database of insurance policies, the study shows that **scores are effective predictors of risk under automobile policies**. At the same time, **scores are observed to be distributed differently among racial and ethnic groups**, and this difference is likely to have an effect on the insurance premiums that these groups pay, on average. Nonetheless, scores appear to derive a relatively small amount of their predictive power from their correlation with race and ethnicity. Finally, the Commission could not develop an alternative scoring model that would continue to predict risk effectively, yet decrease the differences in scores among racial and ethnic groups.”

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## Why Does Algorithmic Bias Happen?

- The algorithms are too complex to be fully understood
- The real-world output depends on training inputs, which are not always correct
- Humans cannot anticipate all possible correlations
- Correlations may or may not be correct
- The algorithms and the data are not transparent

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## What Can Be Done?

- Researchers are developing toolkits to probe for problems
- Companies can test more on their own—they have the algorithms, data, etc.
- More transparency is needed on what factors go into what decisions
- Awareness of the issue!

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# Corporate Ethics

- How should ethics—especially when they're culture-specific—be balanced against a company's fiduciary duty?
- How should the decision be made?
- How should employees act?
- What would you do?