# CTRL-ZINE

## TEXAS CIVIC TECH PROJECT • VOL 1

### TURN IT UP
12 tech-themed
songs you need

### IMPACT. ACTION.
Students shaking
up the world

## THE PILOT: OUR FIRST ISSUE

## ABOUT CTP

The Texas Civic Tech Project (TXCTP) is an organization of UT Austin students formed in the Spring of 2019. We provide an avenue for STEM students to have a dialogue on issues related to technology and politics, participate in civic-minded projects, and give back to their community in meaningful ways.

Ultimately our organization is dedicated to unpacking the human aspect to technical problems. We hope to uphold democratic values in civic life and the widening field of technology today.

Find out more at txctp.org

**PLAYLIST
DIVERSITY
THE CENSUS
PROFILE
PROFILE
BIOMETRICS
HOROSCOPES
MACHINE BIAS
CROSSWORD
MONOPOLIES
T-SHIRT DRIVE**

# TECH PLAYLIST

## LOOKING FOR SOME TUNES TO LISTEN TO WHILE YOU FLIP THROUGH THE ZINE?

Pop these into a playlist, and get into the mood while you learn more about the intersection of technology and civics!

Dirty Computer
**JANELLE MONÁE**

Computer Blue
**PRINCE**

Digital Witness
**ST. VINCENT**

Double Tap
**JORDIN SPARKS**

Technicolour Beat
**OH WONDER**

Unicorn Purp
**FUTURE FT. YOUNG THUG, GUNNA**

Electric Current
**LOWER DENS**

Money
**PINK FLOYD**

The Spirit of the Radio
**RUSH**

Kiss Me Thru The Phone
**SOULJA BOY**

Lie, Cheat, Steal
**RUN THE JEWELS**

Motherboard
**DAFT PUNK**

# CHANGING THE NOTIONS OF DIVERSITY IN TECH

*Abby Krishnan*

**B**ehind the glitz and glamour found in modern tech offices lies a problem all too common in the industry - a clear lack of diversity. Currently, men hold 76% of technical jobs, and 95% of the tech workforce is white.

While creating diverse workforces remains a stumbling block for tech companies, the industry claims it is trying to change the norm. Often, people refer to the "pipeline problem", the idea that there simply isn't enough diversity starting at the beginning of the pipeline, like in high school computer science programs, which ultimately results in homogenous workplaces. It is time to move away from traditional rhetoric in tech that treats diversity as something to consume. Rather, should begin to change the lack of diversity in the tech industry with concrete action that challenges our modern-day biases.

Problems exist with the rhetoric surrounding diversity recruiting in tech - both in the academic and professional space. The most commonly cited benefit of diversity is that people of different backgrounds are able to contribute different ideas and perspectives to the table. While this is can be true, the notion that a diverse candidate merely only brings their perspective can be demeaning, as it understates the skills that they have.

Within the recruiting space, tech companies should become more cognizant of the way they encourage underrepresented minorities to pursue careers in tech. Carla Rivera, computer science junior, tells me that, to her, "The biggest reason why we don't have more minorities in tech is that there aren't enough resources for communities that are predominantly minority. There simply isn't enough opportunity for younger generations to become exposed to and interested in tech." Rivera shows how important it is to extend the diversity discussion to challenging inherent problems of opportunity and bias.

The other problem found in technical recruiting is that diversity has long been treated as a side issue

in the industry. By hiring "diversity directors", companies act as if they have taken sufficient effort to combat the issue. Having a diversity recruiter or director should not be seen as a pass to the gross demographic imbalance found in these corporations.

Industry leaders can look to Slack as an example to follow in creating an inclusive workforce. At Slack, women make-up 31 percent of leaders and hold 34 percent of technical roles. While they still lag behind in terms of underrepresented minorities, they remain industry leaders in providing opportunities to these groups. Slack has made

a real effort towards changing the recruitment process to help attract more candidates. Slack is known for untraditional recruiting practices, like moving past the typical, "whiteboard" interview, and instead opting for a blind code review, which attempts to remove stereotypes associated with a candidate. They also moved to a more team-based approach to interviewing, which helps remove the implicit bias an individual interviewer can bring to an evaluation.

We should encourage active efforts to diversify workplaces, rather than empty rhetoric that claims a commitment to different perspectives.

# THE CENSUS

*Kaushik Koirala*

## What is it?

In the spring, between March 2nd and April 27th, you will receive a series of letters in the mailbox and many more ads from the US Census Bureau persistently encouraging you to give them information about you. They only do this once every 10 years, but they REALLY want this information. As such, they are giving you three ways (from least to most painful) to respond: Online, Phone and Snail Mail.

If these attempts are to no avail, and they still don't have a response from you, they will send an actual person out to you to follow up and get a response.  As you can see, they are very serious about this. Please respond. Non-response is illegal[1] and the Census Bureau will continue bothering you until you do.

## Where do I actually live?

As college students, answering official government forms can raise some complications. One such place is on the question of residency. If you're living in a dorm or housing just off-campus, should you really respond to the census from a place you'll have to move out by June anyways? Isn't it better to just respond from your parents' house? Is it fair to represent your place of living for the next 10 years based on temporarily planned living situations?

According to the Census Bureau, the answer is yes, it's fair and it's what you should do. The US Census wants you to respond with your place of "usual residence," or "where a person lives and sleeps most of the time." For most of us, by April 1st, 2020 that will be our dorm or off-campus residence.

## Why does all of this really matter?

The census counts just about everyone in this country. This means that demographic data on categories such as race, age, income, inter-state migration are collected on the whole population. If you're like me, cool visualizations of this data on census.gov are valuable enough to keep this program running. But say you aren't like me, then what is the value?

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[1] Failure to report information on the census is punishable by a fine up to $5000.

**Your Response's Impact**

1) The Census results are what will decide how much and to whom around $675 billion in annual funds are given to more local governments. A non-response and the lack of funding it causes may be what's keeping those potholes from being filled or that community clinic from shutting down.

2) Your response to the Census, in part, determines how many seats your state gets in the House of Representatives. Texas, for its part, is projected to increase its allotment by 3 seats.

3) Perhaps most importantly to our democracy, your response to the census is what can help ensure good voting districts and redistricting in your state and protect against gerrymandering and particularly bad or unjust redistricting efforts[2].

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[2] One such example of this involves a company called Caliper. Caliper has released software packages, such as Caliper Maptitude, that are specifically geared towards partisan "redistricting professionals" to draw districts to their benefit. To counteract this, there are now many open source efforts such as the Princeton Gerrymandering Project that rely on accurate census data (meaning a census where we all respond) to highlight the egregiousness of certain state district maps.

# ROSALEEN XIONG

*Computer Science - 2020*
*Founder, Q++*

## 1. What is Q++ and what inspired you to initially found this organization?

*Q++ is UT's organization for LGBTQIA+ students who are interested in technology. We started the org because it can be incredibly difficult to feel like you belong in computer science, especially if you're part of an underrepresented group. We wanted to create a space for queer students to build community and receive academic and professional support.*

## 2. What kind of change are you interested in seeing, across computer science and your other interests?

*I want people to feel more comfortable exploring how to leverage their interests for social good. Many students know they want to create change but don't know where to start. Much of this is tied to diversity - a field can only adapt and grow by including and empowering diverse voices*

## 3. What are you excited about working on next through Q++ or other organizations?

*I'm incredibly proud of the work that we've done so far in Q++, and our next steps are to continue expanding and ensuring that the org is sustainable. I'd love to see more underclassmen participate and help lead Q++, and I want us to continue collaborating with other communities who are working to increase diversity at UT.*

# SHROOTHI RAMESH

*Mechanical Engineering - 2021*
*President's Award Recipient*

## 1. What are some of your interests or past projects that you've worked on?

*I really love to expand my boundaries and try new things. I started getting into opportunities involving Textiles and Apparel kind of by chance. I worked on Spark Magazine for a year and a friend of mine suggested I try taking a new class being offered in Sustainable Textiles and Materials. I really enjoyed the class and have since begun to explore the intersection between engineering and arts some more by trying research in the field and taking on projects like President's Award.*

## 2. How has your academic experience through your major affected these opportunities?

*It is difficult to try to take classes outside of my major since the MechE degree plan is very involved and structured. However, I still try to make time to explore other opportunities.*

## 3. What are you excited about learning more about in the intersection of your major and your interests?

*I am excited to continue exploring the intersection between STEM and art and seeing where it can take me. I've enjoyed bridging the gap between the two and will continue to seek out such opportunities.*
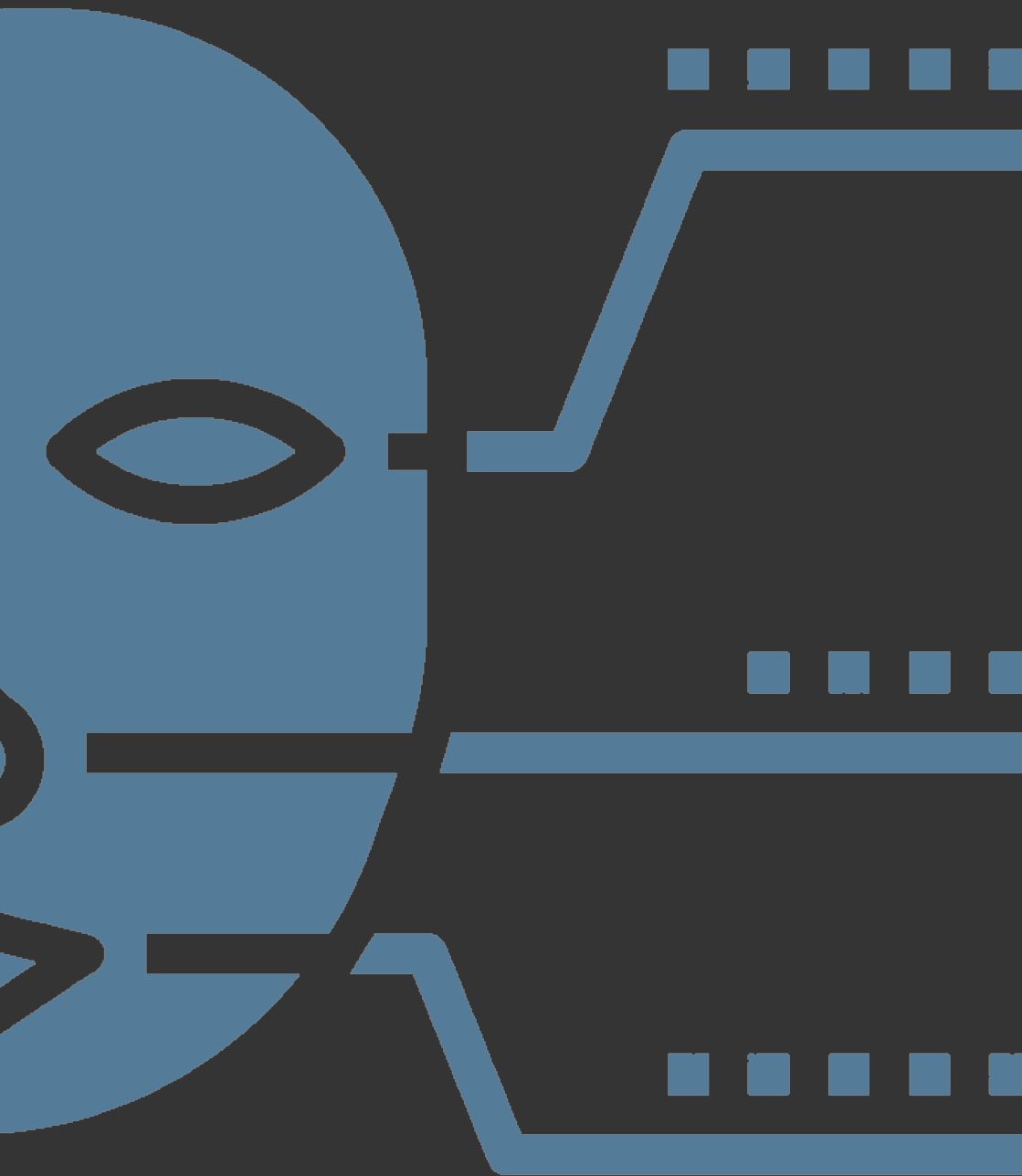
# RACIAL BIOMETRICS

*Alexander Tekle*

**A** motion activated soap dispenser should be clear of the bias evident in news reporting or hiring. This, however, is far from the reality and lived experiences of many underserved demographics of the world. Through experiments and anecdotal stories, people of color have shown the implicit discrimination of technology that use and implement biometrics, or the use of physical features for measurements and calculatons in their products and solutions.

Facial recognition software has been rapidly growing in commercial technology. Despite the popularity of facial recognition in products such as the iPhone's face ID feature, there's a growing cognitive dissonance with users of color that aren't reaping the same benefits. Dr. Timnit Gebru, Technical Co-Lead of the Ethical AI Team at Google found in her research of three commercial facial recognition systems that darker-skinned females are the most misclassified group, with error rates as high as 34.7%. In comparison, the highest error rate found of lighter-skinned males was only 0.8%.

**DISCRIMINATION IN BIOMETRICS** isn't constrained to only the private sector. Local governments have also been using biometrics as a means to automate their processes. Several police departments have been using Amazon's facial recognition software, Rekognition, to cross-check a photo of an individual against a database of mugshots. The ACLU, investigating potential implicit bias of the software, ran an experiment using the photos of athletes of New England's various sports teams. The experiment wrongly linked 28 active players, mostly of color, to mugshots in the database.

The belief that biometrics can be applied to technology in an objective manner that reconciles the nuances of race is intellectually dishonest by both engineers and researchers in the field. People of color must carry the burden of isolation and rejection from the benefits of biometrics while their peers enjoy this 'innovative' technology. There's a long way to go, but the beginning requires critically analyzing our applications of biometrics and continuously questioning the social impact of tech and engineering efforts.

# CIVIC TECH HOROSCOPES

*Ritvik Annam and Abby Krishnan*

These horoscopes might give you some insight into your life. They also all relate back to civic/social issue technology current events and topics. Try and see if you can figure them out!

**Word Bank**
*Facebook Libra Cryptocurrency, Big Tech, WeWork/SoftBank, US Ban on Huawei, Cybersecurity/Privacy, Meat Replacement Startups, Algorithmic Justice, Gender Bias in Tech, Online Dating, Open Source, Rural Broadband, Autonomous Vehicles*

**ARIES**
You've grown distrustful of entities in your life, suspecting that they may have ill intentions. You feel like they're trying to gain information on you not to make a friendship, but to take advantage of you. You've taken to extreme actions -- cutting them out, instead of taking the diplomatic approach of trying communication.

**TAURUS**
You've been focusing on yourself lately, and you've been feeling great! You're looking to add some spontaneity in your life and keep your health in mind.
You've found someone, but they seem to be in a complicated place. There aren't clear labels, and you're looking to define both your relationship and yourself. Will this be a successful venture?

**GEMINI**
You thought you had found the one but their intentions may not be aligned with your own. You may be overvaluing their benefit in your life while they outrun you. The relationship may be coming to an end; however, it seems as though they will give you one last blow. You may have invested too much time and money in this relationship.

**CANCER**
You're too plugged in. It's time to keep your guard up; ill-behaved people may take precious items from you. The world around you is complicated and it's hard to keep track of everything you've said and done. You may feel free and open, but people you trust may betray you without you even realizing it.

**LEO**
For too long, you've been cast aside. You've been told to go one way, even though you want your life to head a different direction. Even when you try to do what you want, you may have faced some difficulty in pursuing those challenges.

## VIRGO

You've been treated unfairly in the past, and while many claim that things are going to get much better, you're not sure. You've seen the same rhetoric pop up at varying points in your life, which has led you to doubt the fairness of the system. You all want to make sure there's a 3rd party, like the advice of friends or peers, that protects your safety and vets the fairness of treatment you receive.

## LIBRA

You're looking for something stable, a little more balance in life. The path you take today could have wild swings either way - a financially stable outcome or a project that fails drastically. Beware that those you once called partners may back out on their promised support and outsiders who may look at you with doubt.

## SCORPIO

Barren is the path to your success. Few people have stepped down your road of domination, yet many are wary of the dangers ahead. They call you names, they try to take your plans apart. There may not be a clear right or wrong in this battle. While the outcome isn't entirely in your hands, you can find influence from those who are crucial to your growth.

## SAGITTARIUS

You're gonna meet someone! It may not be a straight path (there may be a few lefts and rights along the way), but you'll find the one you want. You might feel like you're struggling, but something will spark and you'll be buzzing along. It's a whole new world out there!

## CAPRICORN

Your transparent personality draws many people to you, but sometimes you feel overwhelmed and unable to meet everyone's demands. You often think you're too giving, but remember that it is one of your core values.

## AQUARIUS

People forget about you and you often feel left out. It's not your fault! You're just trying to be connected, more worldly, but it feels as though the tides have turned against you.

## PISCES

You feel like you have lost all control over the direction of your life! It's almost as though some external force is controlling you. While it doesn't feel great, your life does feel more precise and less risky.

# MACHINE BIAS

*Nila Selvaraj*

**T**he results are in, and the verdict is obvious: human beings are biased. Every day, each of us looks at the world through a window tinted by our experiences and opinions, coloring our decisions with prejudices and predilections that we may not realize even exist. The idea of using artificial intelligence to eliminate those biases ostensibly seems feasible. Shouldn't scientific, methodical calculations, using 1s and 0s instead of wishy-washy human judgement, yield impartial results? Unfortunately, we can't decouple artificial intelligence from the context in which we create it.

A few years ago, Amazon tried to develop a computer program to fairly rate candidates' resumes for technical roles, but soon ran into a problem.

After training the program with hiring data from the previous decade, the AI actually learned to discriminate women's resumes, reflecting male dominance across the tech industry. It penalized variations of the word "women," downgraded candidates from two all-women's colleges, and rewarded verbs used more often by males, such as "executed" or "captured." Eventually, Amazon abandoned the effort, but many employers and universities still aspire to use AI in application decisions.

**MACHINE BIAS**, also called AI bias or algorithmic bias, happens when an algorithm produces systematically skewed results due to flaws in the machine learning process. AI systems tend to amplify pre-existing biases. Gender, race, age, and class are integral to the

way our world works, and unrelated information may send a strong signal of these characteristics. For instance, it is illegal to consider race in risk assessment modeling, which can affect people's ability to post bail or get a loan, but algorithms can exploit correlated information like education level or zip code. Pattern recognition and feedback loops, combined with current societal context, lead to unintentional inequality.

Identifying machine bias is far from straightforward. Criminal justice courts across the United States use Northepointe's COMPAS algorithm to rate defendants from 1 to 10 on how likely they are to reoffend based on hundreds of factors – not including race. Last year, ProPublica exposed the tool's higher false positive rate against black defendants. Among defendants who did not reoffend, 45 percent of blacks received a medium- or high-risk label, compared to only 24 percent of whites. Northepointe refuted ProPublica's claim of racial bias by pointing out that white and black defendants with the same
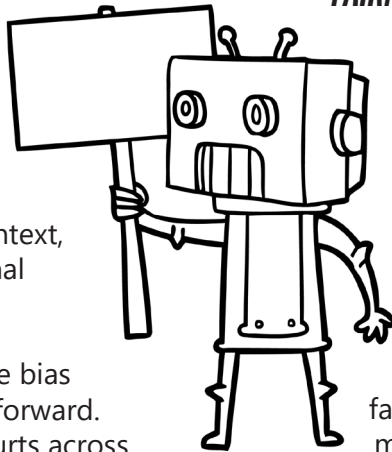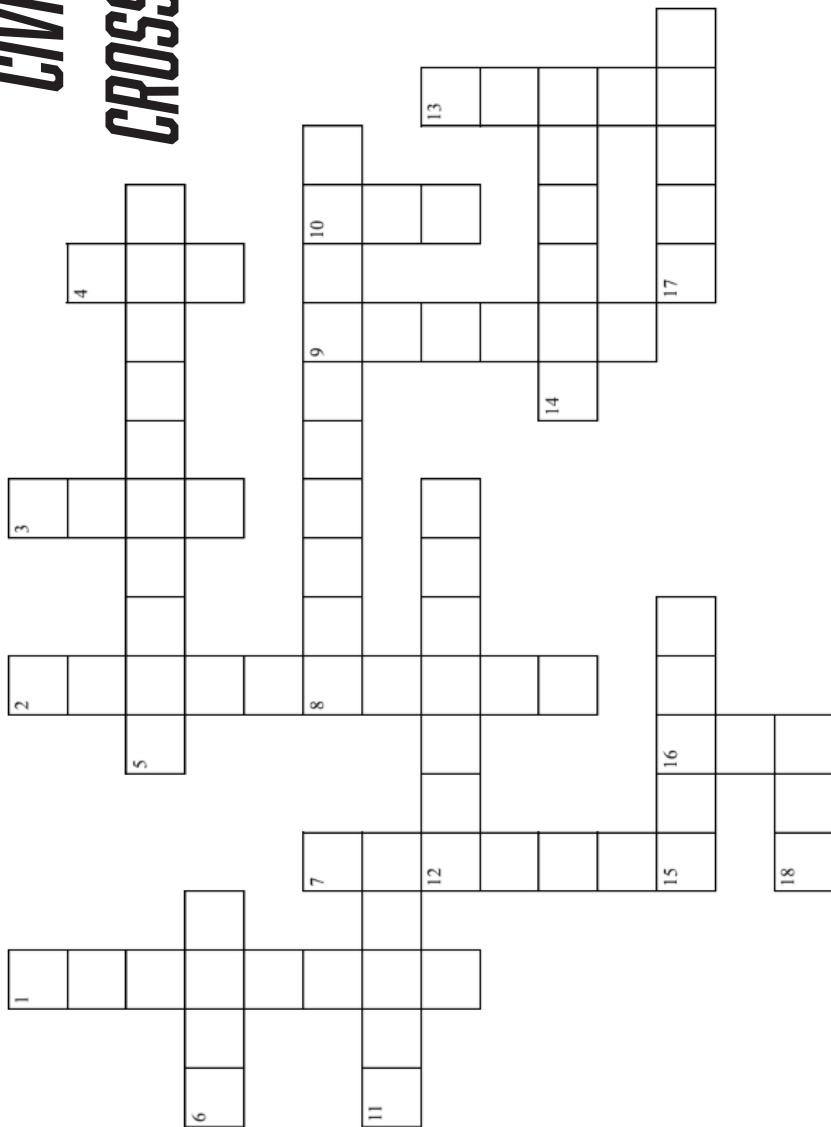
> ## *THE CRUX OF THE MATTER IS THAT SATISFYING BOTH FAIRNESS CRITERIA IS MATHEMATICALLY IMPOSSIBLE."*

risk score were roughly equally likely to reoffend. The crux of the matter is that satisfying both fairness criteria is mathematically impossible. This irreconcilable conflict calls for more creative solutions to reduce systemic bias.

Racial, gender, ethnic, and age discrimination by artificially intelligent systems is already happening in many aspects of our lives. To solve it, we must strive for ethical software and inclusive datasets, and we must proactively decide what we want for our future: how we define inequality, and what levels of bias we are willing to accept for the sake of convenience and progress.

# CIVIC TECH CROSSWORD

**Down**

**1.** A technique for human image synthesis based on artificial intelligence that could create convincing fake images

**2.** The idea that Internet service providers should enable access to all content, without favoring or blocking particular products is NET

**3.** Idea, behavior, or style that spreads from person to person within a culture, almost entirely on the internet

**4.** Acronym for the junior congresswoman from the Bronx who makes waves in the media for taking on tech companies from a progressive stance

**7.** What Elizabeth Warren wants to do to Facebook

**9.** Decennial event that is digitizing in 2020 that helps us know the number of people who live across the US

**10.** Mark Zuckerberg's pithy response to Senator Orrin Hatch's question, "How does Facebook make money?"

**13.** Controversial and prolific tech entrepreneur responsible for founding companies like PayPal and Palantir.

**16.** Russian entity guilty of 2016 interference in the US presidential election

**Across**

**5.** The main concern of presidential candidate Andrew Yang's campaign

**6.** Regulation in EU law on data protection and privacy

**8.** The kind information or task that is produced by a computer rather than a human

**11.** The plaintiff in the Supreme Court case that ruled that federal courts have the right to challenge congressional district drawings.

**12.** Large data breach (147 million people), by this large consumer credit reporting agency

**14.** Powerful Chinese tech company that has come under pressure in the US for being used as a potential Chinese spying tool

**15.** Code name for the NSA program that collects communication from various U.S. internet companies

**17.** The common term for a illegitimate social media account with the intent of deception

**18.** Law that shields tech companies from liability over posts made by user's on their platform

# SOCIAL MEDIA AND SPEECH: WHERE DO COMPANIES DRAW THE LINE?

*Glenn Rodgers*



**A**mong the many big tech companies that Senator Elizabeth Warren has stated need to be "broken" up, Facebook has been her main target. In the past months, their feud has become almost personal. Starting with the release of leaked audio, where Facebook CEO, Mark Zuckerburg, stated that if Warren was elected president it would "suck" for the company. Amidst accusations of false advertising, gossip-like audio leaks, and calls for regulation, the rivalry between Warren and Zuckerberg demonstrates the growing distrust between governments and tech companies.

With Facebook now controlling a great portion of digital communication and social media, this seemingly endless power over the internet has caused many to deem tighter regulation necessary. After the backlash of Warren's claims of Facebook

false campaign advertisement, at least 250 Facebook Employees have signed a petition requesting Zuckerburg to strengthen the companies regulations of political advertisements to prohibit lying. You can be assured that Warren had a response to this, stating on Twitter that "Facebook's own employees know just how dangerous their policy allowing politicians to lie in political ads will be for our democracy."

Warren is not alone in her feelings. During Facebook's recent congressional hearing on Oct. 3, 2019, Rep. Alexandria Ocasio-Cortez challenged Zuckerburg by asking, "Do you see a potential problem here with a complete lack of fact-checking on political advertisements?" Ocasio-Cortez's questions also centered on the possibility of false advertisements high minority populated zip codes. Zuckerburg responded by stating that it's not Facebook's responsibility to police and fact-check all content on their site, citing their commitment to free speech as the basis for this policy.

Within the light of Twitter's recent announcement of banning political ads beginning in November, we can see a separation between news sources and social media being drawn. It can't possibly be within Facebook's power to check all the content posted on their site, but that raises the question – should they fact check it? Social me-

## "DO YOU SEE A POTENTIAL PROBLEM HERE WITH A COMPLETE LACK OF FACT-CHECKING ON POLITICAL ADVERTISEMENTS?"

### - REP. ALEXANDRIA OCASIO-CORTEZ

dia's rapid expansion led it to become an unforeseen "reliable" source of information, but they're still responsible for the content they release. The problem with this, is when does inhibit information become an inhibition of free speech?

Though Warren might not see her desired response from Facebook, politicians growing reactions show the public's growing awareness of a complex situation.

# HOW TO MAKE
# A NO-SEW T-SHIRT BAG

*Anusha Paul*

Received too many t-shirts from career fair that you never wear anymore?

This semester we partnered with the Travis County's T-Shirts for Hunger Program to make reusable bags out of t-shirts. The bags were donated to local food pantries and used to give food to people.
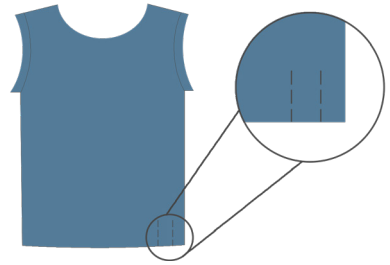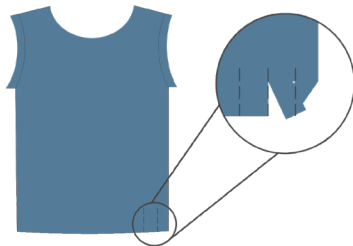


## 1

Cut the collar off a regular t-shirt

**2** Cut the sleeves off, leaving the seams still on the body of the shirt

**3** Cut 2-3 inch strips along the bottom of the shirt

**4** Double knot the strips together

**5** Flip the shirt inside out, and you're done!

*THANKS FOR READING!*

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