Issue 1
2020 - 2021

TECH IN ACTION

The Zine of Newcomb Institute's
Technology Initiatives

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MESSAGE FROM THE EDITOR

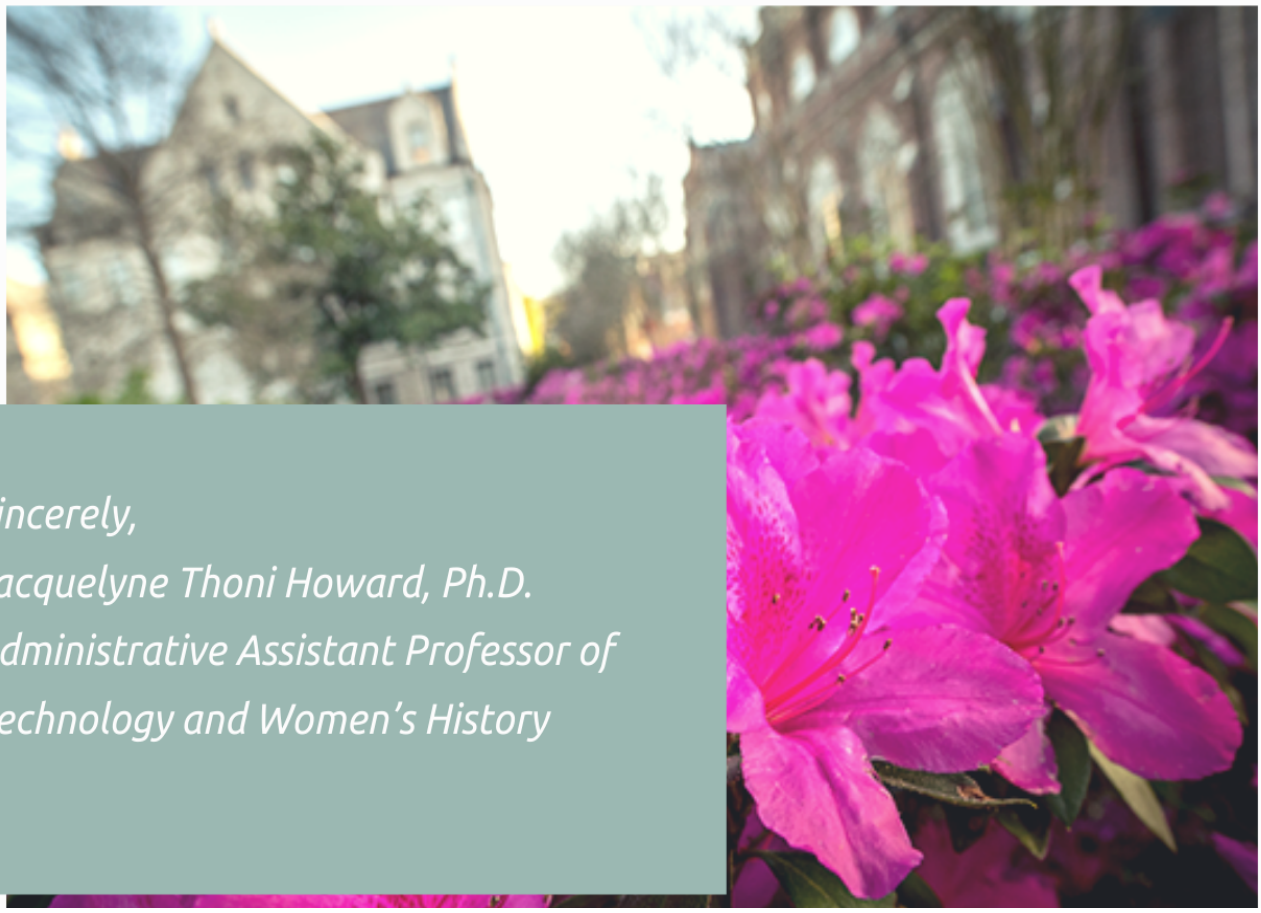
April 26, 2021

In 2020-2021, in the face of isolation and social distancing from COVID-19 and yet increasing productivity expectations within our workplaces and schools, we have all been reminded of the growing importance of technology and digital cultures in our lives. As our modern society relies even more on the implementation of technology tools, we need a better understanding of how technology impacts societal norms and how existing social inequities such as misogyny and racism are perpetrated across technology sectors from employment to design. Newcomb Institute's Technology Lab works to educate undergraduates about gender equity within the field of technology by providing:

- Collaborative opportunities for undergraduates to build technical portfolios that represent an array of technical and digital research skills,
- Opportunities to be part of an interdisciplinary feminist-minded technology community on campus,
- Exposure to feminist technology leadership practices, job-market preparation, and technology mentors, and
- A space to explore scholarship about gender and other intersecting identities within the field of technology studies.

Since the relevance of this mission in today's digital age cannot be understated, I am excited to introduce this year's edition Newcomb: Tech in Mind zine. This publication serves as a portfolio of work completed by the technology interns and grantees of Newcomb Institute. The zine features interest pieces that represent the broad range of technical interests of our Digital Research Interns, Information Technology Interns, and Gender and Tech grantee. The publication also includes reviews of sessions and networking experiences by our Grace Hopper Celebration Grantees. Also included are posters that illustrate the collaborative technical work undertaken by Newcomb Institute's technology students on the digital humanities projects of Tulane University faculty and the technical projects of Newcomb Institute. Lastly, the zine provides a space of reflection about feminist leadership within our programs.

While the objectives of the Technology Lab remain the same, our Digital Research Intern Product Developer, Lindsay Hardy has shown that these challenging times provided the perfect opportunity to focus inward on providing a better support system for our community. This year, we focused across our cohorts on increasing training, organizing knowledge-infrastructure and sustainability initiatives, and empower students to promote their work. We are hopeful that these efforts made in response to our current working conditions will continue to serve our future cohorts as they journey to become feminist technologists. As this zine shows, this year's cohort of feminist technologists met the challenge.



Sincerely,
Jacquelyne Thoni Howard, Ph.D.
Administrative Assistant Professor of
Technology and Women's History

Meet the Team

Digital Research Interns

LINDSAY HARDY
Product Developer

Lindsay Hardy is originally from Nashville, TN, and uses she/her pronouns. She is currently a senior double majoring in Art History and Computer Science with a minor in Arabic. Lindsay has been on the Digital Research Internship team for around three years now and has enjoyed every moment of her time with the team. With the DRI she found a perfect connection between her majors, and even her minor, helping her find new insights through Digital Humanities. Outside of the DRI Lindsay is involved with the on-campus radio (WTUL), serves as a TA for Intro to Systems and Networks, and as a Research Assistant for a forth coming project titled Global Port Cities.

LUCIEN MENSAH
Development Intern
Team Lead

Lucien Mensah is third-year majoring in Linguistics and Computer Science from St. Petersburg, Florida, and uses he, him, and his pronouns, . Being a part of the Digital Research Internship team has been a great experience that has allowed Lucien to combine my love for the humanities with tangible tech skills and products. In addition to being a DRI Intern, he is also the Gender and Sexuality Advisory Council Chair, a Student Advocacy Intern, Diversity Fellow, Community Engagement Advocate, and Public Service Fellow. In his free time, he loves to learn languages, read historical fiction, and attend Pop Punk concerts.

EMILY O'CONNELL
Development Intern
Team Lead

Emily is a Junior from Nashville, Tennessee majoring in Computer Science and French with a minor in IT. She has loved being a part of Newcomb, working on the DRI team for the past year and taking on additional projects as an Information Technology Intern. Outside of school, Emily enjoys doing design projects, watching football (Titan Up!), drinking tea, and watching movies.

LANA BIREN
Development Intern

Lana Biren is a senior majoring in Computer Science and Political Economy. She is from Los Angeles, CA. Lana loves rock climbing, hiking, and exploring New Orleans. With Newcomb, Lana has served as the Co-Outreach Chair of Women in Technology for four years. She really enjoyed being a Digital Research Intern. This experience allowed her to work on real-world projects while exploring the intersection between gender, humanities and technology!

ERICA CASARENO
Development Intern

Erica Casareno is a junior from New York, majoring in Neuroscience and minoring in Economics and uses she/her pronouns.. The Digital Research Internship bridges Erica's passions for STEM and the liberal arts. She is grateful to be a member of such a diverse team. Aside from working as a Digital Research Intern, Erica is the Vice President of Tulane Green Medicine Initiative and a Marketing Volunteer for the Books and Brains Outreach Program. In her free time, Erica enjoys painting, taking photos, hoop dancing, and testing out new vegetarian recipes.

SARAH FOX
Development Intern

Sarah Fox is a junior from Westfield, NJ studying mathematics and computer science. She has previously worked at Newcomb Institute as an Information Technology intern and is looking forward to being back. Currently, Sarah is the secretary of Women in Technology which is also part of Newcomb Institute. Outside of school and work, she likes walking on St. Charles and exploring all the surrounding areas. Sarah is excited to work on a variety of projects with this internship program and learn more about the scrum management style.

MARISA LONG
Development Intern

Marisa Long is currently a sophomore from Columbus, Ohio studying linguistics and computer science, and uses she/her pronouns. Outside of working as a Digital Research Intern, Marisa is a studio lead for the Design For America studio, a student instructor for Foundations of Programming, an ESL volunteer teacher, and she leads runs for our Tulane Run Club on Monday and Wednesday mornings. In her free time, Marisa loves to travel, run, hike, and spend time outside in general with friends and family. She is excited to learn more about scrum and gain experience working on a scrum team this semester!

KILA MOORE
Development Intern

Kila Moore (she/her) is a graduating senior from Clinton, MS majoring in International Relations and Africana Studies. DRI granted Kila the opportunity to integrate her love for the humanities and admiration for tech. In addition to DRI, Kila is a Solidarity Fellow and Community Engagement Advocate for the Center for Public Service, and Office of Multicultural Affairs Peer Mentor, and an editor for the Tulane Journal of Policy and Political Economy.

RENA REPENNING
Development Intern

Rena Repenning is a third-year student majoring in Computer Science and Economics. In addition to DRI, Rena is a TA for CMPS1600 and a private tutor for Juni Learning. Rena's favorite part about DRI was exploring the Scrum workflow and improving her teamwork skills. During summer 2021 Rena will be a Technology Summer Analyst at Barclay's. After college she hopes to continue work as a software engineer.

PIPER STEVENS

Development Intern

Piper Stevens is currently a junior studying Chemical Engineering with a minor in mathematics. Outside of the Digital Research Internship, Piper is the secretary for Tulane's American Institute of Chemical Engineers chapter as well as a DJ for our campus radio show. In her free time she loves baking, camping, and taking photos. She love the digital research internship's focus on inclusivity and learning while working on a variety of interesting projects.

RACHEL TABOR

Development Intern

Rachel Tabor is from Abita Springs, Louisiana and use she, her, and hers pronouns. At Tulane, she is a third year student majoring in biomedical engineering with a minor in mathematics. In addition to working as a Digital Research intern, Rachel is the president of Tulane's section of Society of Women Engineers (SWE), which is a proud Newcomb Institute organization! She is also an executive board member of Tulane's only engineering fraternity: Theta Tau. Rachel's favorite part of the digital research internship program is the multi-disciplinary collaborative atmosphere since we have members across all majors!

DANIELLE WALDER

Development Intern

Danielle Walder is currently a junior studying economics and information technology, while minoring in management and sociology. She is originally from Chicago but moved to Los Angeles when she was a freshman in high school and lives there now! At Tulane, Danielle is the marketing chair for Women in Technology. Outside of school she is the house manager of her sorority, Alpha Epsilon Phi and loves to go to the beach, relax in the sun, and spend time with her friends, family, and dogs. Last year, she worked as an Information Technology Intern and loved the experience of learning what it was like to work on a SCRUM team. She is excited to expand my knowledge and work with a new group of students!

Information Technology Intern

SOPHIE TANEN

Sophie Tanen is a Junior at Tulane, majoring in Computer Science and Linguistics. For the past two years she's worked for Jacquelyne Howard as an Information Technology intern at Newcomb Institute. She also works as a Classroom Experience Assistant to help with the new classroom equipment around campus, as well as TAing for a Visualization class. In her free time, she likes to read, and plays for the Tulane Women's Rugby Club

THE DIGITAL RESEARCH INTERNSHIP PROGRAM

The Digital Research Internship Program provides undergraduates with an opportunity to obtain a skillset and diverse portfolio in technology. Undergraduates, working on a Scrum team, receive tangible experience in technology and feminist leadership while working on the digital projects of Tulane faculty in the humanities and sciences. This paid internship supplements students' majors and minors when seeking employment or prestigious technology internships.

OUR PROGRAM AND ITS CHANGES

BY: LINDSAY HARDY, PRODUCT DEVELOPER 2020-2021

Since its founding in 2017, the Digital Research Internship program has had a strong focus on feminist leadership and pedagogy. With this focus we have strived to support each and every intern, inspiring them to discover new interests and new skills. During a retrospective in our group meetings first semester, we realized that even though we strived to meet our goals we still occasionally struggled to publicize our own work, even when we were proud of that work. Because of our realization, which stemmed from imposter syndrome and other similar feelings, we took steps to build and expand the program to address what we were noticing. As product developer I wanted to create a structure that would allow each intern to feel supported and would also give them an opportunity to develop their own personal portfolios.
In order to implement these changes, we started by adding two new positions entitled "Team Leads" and breaking the large team of eight students into two teams of four students. The Team Leads worked side-by-side with the other dev interns, completing tasks each sprint, while also leading each sub-team of interns.

The Team Leads provided additional support for each of their team members whenever they needed. Dividing up the group into two separate teams meant we could better use our time in our weekly one hour meeting, with 30 minutes focused on distributing team tasks and discussing work from the previous sprint, and 30 minutes when each team would come together to meet for professional development. During the professional development sessions, we had a talk from Newcomb's Graphic Designer Aisha Champagne, a discussion about expanding LinkedIn profiles, a tutorial for building portfolio, a talk about previous women's impacts on technology, and a Git Hub workshop.

With each of the skills that we learned, we worked to apply them to the internship program. For the internship specifically we created social media accounts like a LinkedIn profile and accounts for twitter and instagram. For each of the social media platforms we set a goal to post each week, with the posts ranging from a profile on one of the program's interns, an update on a project that we're working on, past articles from our zine, or recent news that we found interesting. Taking the skills that we learned with our talk with Aisha Champagne we have strived to curate posts that contain important information but also draw the viewer into the content of the post.

Not Pictured: Piper Stevens

While posting about the internships and own accomplishments, we also pushed the interns to grow their own confidence when promoting their accomplishments. For example, we created a file for resume lines that would be updated each week and actively took part in endorsing each other on LinkedIn.

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GITHUB: HTTPS://GITHUB.COM/NEWCOMBTECH
INSTAGRAM: @GENDERANDTECH
LINKEDIN: NEWCOMB TECHNOLOGY LAB
TWITTER: @TUGENDEREDTECH

In addition to the social media accounts we created, we also worked on establishing our presence on github. Github, as a version control site, provides us with a platform to store our tutorials and finished products in repos for others to have access to, while also providing the interns with experience on a platform that they will have to use in the future if they enter into the tech field. Having the github not only helps us to organize our materials but also pushes our feminist pedagogy forward, as we are creating a platform that allows others equal and open access to the resources that we have created. Continually, with the github account, and the different repos we created, we have been able to avoid repeating previous work.

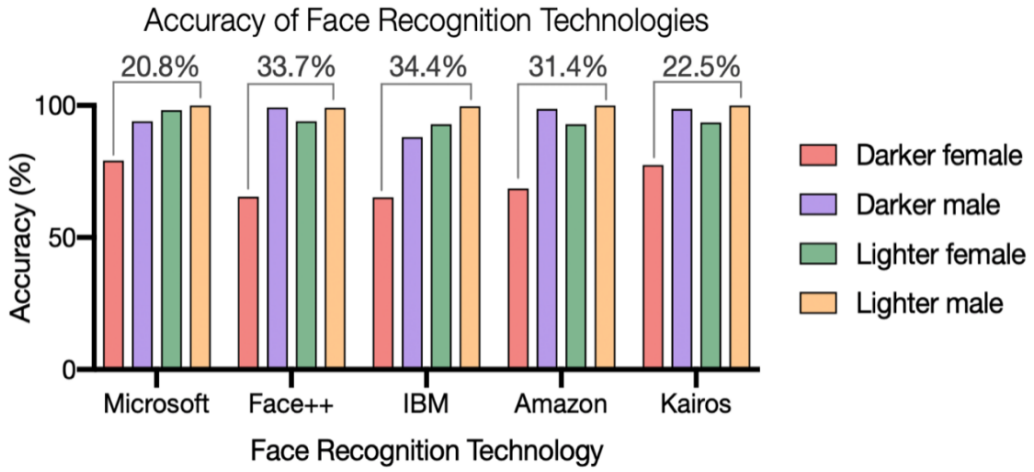
Finally, to round out the changes, we built a website through github to display all the information on the internship in one central location. This website can be placed into the bios of each of our social media sites and also allows the interns a place to link to when asked about specific work they have done during the internship. Because of Dr. Howard's desire to build an internship that has input from the interns and helps them grow to the best of their abilities, we have been able to improve the Digital Research Internship program, helping our interns expand their knowledge and strengthen their confidence.

The Falsity of Facial Recognition

How Algorithmic Bias Shapes the Accuracy of Facial Recognition Software

by Marisa Long

Facial recognition software is all around us; it makes opening our phones a breeze, it works to categorize and match photos, it allows self-driving cars to perceive us. Despite facial recognition's wide acceptance and wide applications today, this software that we trust to be more objective than the human eye is not as impartial as we assume. According to a study conducted by researchers at MIT and Stanford University, the error rate of facial-recognition software for black women (20-34%) is three to four times higher than that of white males (0.8%) [2]. Harvard conducted a project called the "Gender Shades Project" that examined facial recognition accuracy on different demographics, finding these algorithms were the least accurate with black females between the ages of 18 to 30 [3]. Findings that white males are most accurately identified while marginalized people, especially indigenous people, are more often misidentified or not recognized as a face at all holds true across studies conducted by private institutions as well as the National Institute of Standards and Technology (NIST).



Najibi, A. (2020, October 24). Racial discrimination in face recognition technology.

How It Works

To understand this dilemma, we must first examine how facial recognition software works and how the algorithm learns to identify faces. First, the facial recognition software captures an image and locates the facial region of the image. It then locates the main facial features (eyes, nose, mouth) and uses the spacing of these features to realign the face into a front-facing view. From there, the algorithm can examine the geometrical features of the face to determine if the face belongs to a human. If so, identification occurs by verifying that this "faceprint" matches a specific, expected face (such as in passport security) or by checking the "faceprint" against a dataset to identify a match (as used by photos on your phone) [1].

"The other big lesson ... is that our benchmarks, the standards by which we measure success, themselves can give us a false sense of progress."

- Joy Buolamwini,

in *Study finds gender and skin-type bias in commercial artificial-intelligence systems*

Why aren't marginalized people being correctly identified?

If the process itself that the algorithm uses to identify faces is impartial, why are we still seeing a prominent gap between the accurate recognition of minorities? Here, the problem lies in the systemic bias of the society that is creating these algorithms. When looking at bias within facial recognition software performance, we can split it into categories. First, data-driven bias stems from the algorithm itself and is reflective of a biased training pool. If the data pool of images on which the algorithm is trained is not sufficiently diverse, the algorithm's "neural network" becomes much more adept to identify types of faces that occur most often in the training data [2]. Additionally, image quality and image settings matter; if the image quality for people of color is not held to the same standard of image quality for the rest of the data pool, the algorithm will have more trouble learning to distinguish features and differences between people of color [3]. Further, current cameras are not optimized to extract facial feature information from darker-toned skin, putting people of color at a disadvantage even when the pool is adequately diverse. Second, operationally defined bias is the bias determined by the user of the software. One way in which the user has a direct impact on the bias of the software is where the threshold is set between matching decisions.

Amplifying the Divide

Beyond the obvious bias, this disparity in recognition accuracy can prove to enhance racial and gender bias in an already biased system. For example, law enforcement surveillance in cities such as London have used facial recognition technologies to identify possible suspects. It's also estimated that half of American adults have photos within a facial recognition network used by law enforcement, demonstrating the widespread justice concern in the employment of these technologies [3]. In an extreme case, facial recognition can provide the difference between life and death, as self-driving cars employ similar facial recognition technologies [4].

Takeaway

Although facial recognition technology has become an addition to our everyday lives, its use continues to highlight the racial and gender bias in our society. Even with continual improvements to facial recognition algorithms through more diverse training pools, this technology continues to be employed in discriminatory ways. This serves as a reminder that although technology can be less biased than the human eye, we need to continually question the accuracy and fairness of our algorithms just as we would examine bias within an individual's perspective.

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FEM-TECH

WHERE DO WOMEN FIT INTO THE CRYPTOCURRENCY REVOLUTION?

By Piper Stevens

Since it's emergence in 2011, cryptocurrency – digital capital that is traded on a digital ledger called blockchain – has embodied a rebellious attitude in the face of the traditional financial markets. Cryptocurrency offers a decentralized trading framework with the promise of democratizing and equalizing investment opportunities so that anyone with a computer can have a stake in the game. After a little over a decade since its launch, blockchain is still in a developmental space with new forms of cryptocurrency and trading networks emerging daily. As this form of currency develops, so too does its cultural and social impacts. The crypto space is exciting – full of young, tech savy, stick-it-to-the-man investors willing to dive full force into an emerging and promising technology. The problem? Almost all of these young investors are men.

The cryptocurrency investor demographic follows a drearily similar trend as the rest of the investment world. Only about 5-7 percent of cryptocurrency investors identifying as female. The issue in male-domination of this emerging space is exemplified in events like the North American Bitcoin Conference in Miami in which only 3 of the 88 speakers were women and the event infamously ended with a party at a strip club. The good news is that cryptocurrency is still, in many ways, in its infancy. Cryptocurrency has a ways to go before it becomes a solidified institution. As such, many people see the financial technology sector as an opportunity to rebuild the financial system with women as central players. The general attitude surrounding blockchain is that it is brand new, so no one knows what they are doing- you don't have to have to have a business or computer science degree to get involved.

One of the biggest hurdles in rectifying the gender disparity is convincing women that they belong in this space just as much as the slew of confident men that are dominating the markets. Many people are working towards this goal by forming women financial technology investment groups such as Women in Blockchain clubs across the country, women-centered meetups, and female focused conferences. However, the 'Blockchain Bro' culture is difficult to escape and wears people down quickly. It is vital in these coming years to create space for women to partake in this new technology and seize the opportunity to reshape the role of women in finance. Blockchain offers so much opportunity for equity in the financial

HERE ARE SOME WOMEN MAKING WAVES IN CRYPTOCURRENCY

SONYA KUHNEL

Sonya Kuhnel founded Blockchain Academy in 2013 to educate South Africans about blockchain technology. Kuhnel sees the opportunity for social good offered by cryptocurrency. Specifically, the transparency and security capabilities of the currency offers a solution to the fraud, corruption, and inaccessibility issues effecting the public and private sectors in South Africa. These issues disproportionately effect women, something that Blockchain Academy's training sessions and outreach hope to counteract.

RHIAN LEWIS

One of the most renowned women in European cryptocurrency, Rhian Lewis founded the London chapter of the Women in Blockchain group. She also co-founded Count My Crypto, the first continual tracker of cryptocurrency assets. She is a prominent advocate for female participation in financial technology and speaks at many events centered around female empowerment.

JALAK JOBANPUTRA

Jalak Jobanputra is a prominent venture capitalist and founder of Future Perfect Ventures – a startup investment fund. She was a prominent advocate of forming a blockchain diversity advocacy group called Collective Futures that works to promote diversity and equity in the cryptocurrency space.

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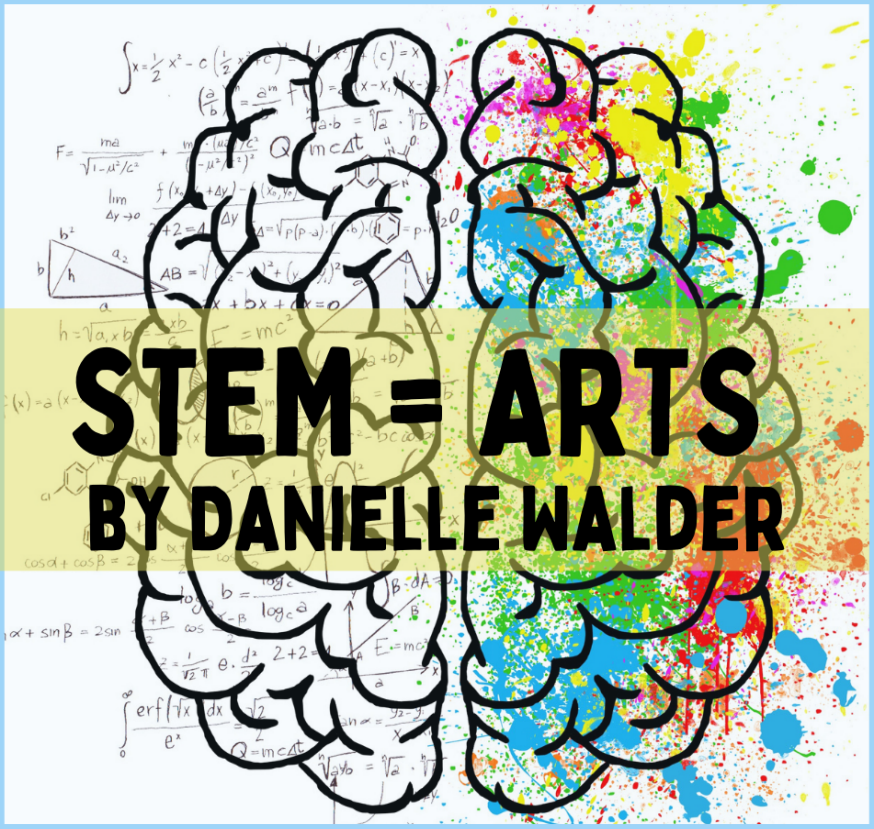


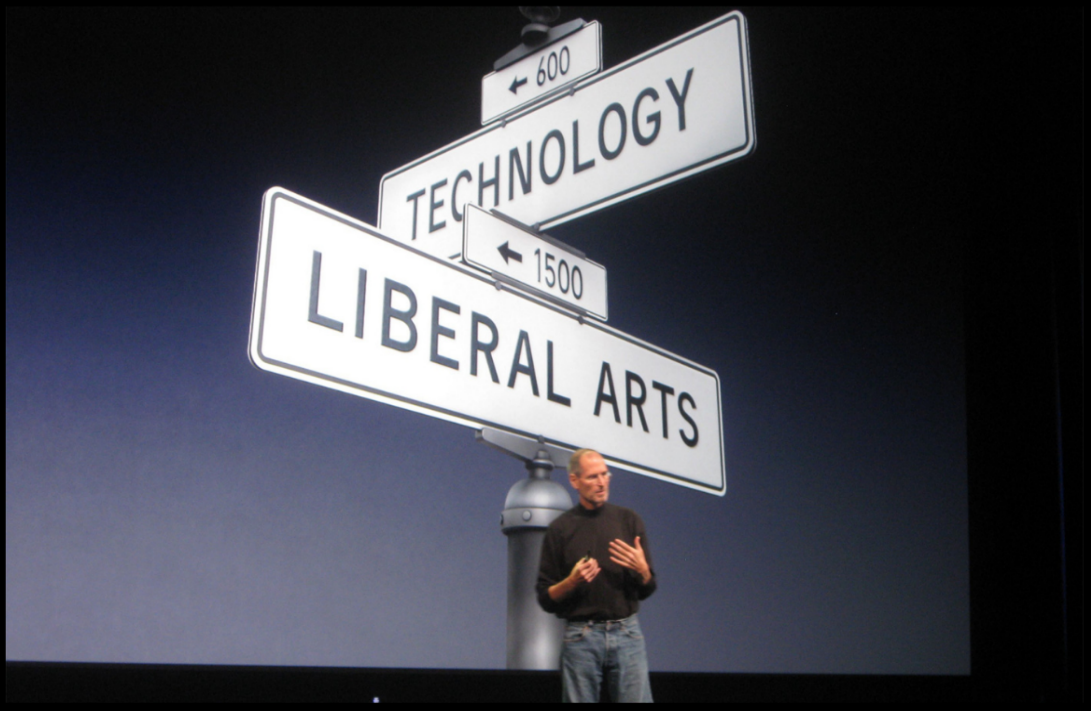
STEM = ARTS

BY DANIELLE WALDER

For as long as I can remember, I have always loved technology. When a computer broke at my house as a kid, I would not allow my family to take it to the Apple Store unless I tried to fix it first. I am now earning a B.A. in Economics and B.S. in Information Technology. When asked what my major is, I am often followed up with a response similar to "I could never do that, I don't code" or "Oh, I bet you are good at math and data science" and my response to that always ends up being an entire explanation of why those statements are false.

The term STEM is very intimidating to someone whose primary major is in Liberal Arts. There is also a stereotype called the Nerd- Genius STEM stereotype, meaning that "People in STEM are sometimes stereotyped as socially awkward, unattractive, and naturally intelligent" (Starr, Christine R, 2018). Granted this stereotype is not gender specific, studies have found that nerd-genius STEM stereotypes exert more of an influence on females because of how society portrays women to act. Due to the fact that people in STEM are characterized as anti social geniuses who don't care about their appearance, it goes against the societal expectations of being a social, charming, attractive member of society (Cheryan, Sapna, et al, 2013). With that being said it makes sense why women tend to be discouraged to dip their foot into their technological interests, while men may not think twice about it.

I personally find myself stuck on the idea people have that you are either a math and science person or an english and history person. I would not consider myself someone who finds joy in solving math equations, yet I am still a member of the STEM community. No area of work is black and white. Steve Jobs did a beautiful job putting this into perspective when showcasing the iPad 2 in 2011: "It is in Apple's DNA that technology alone is not enough—it's technology married with liberal arts, married with the humanities, that yields us the results that make our heart sing."(Lehrer, 2017)



When thinking of Steve Jobs and Apple, technology is the first thing that pops into my head. Ironically, Jobs was not a programmer. Jobs dropped out of college after one semester because he did not like paying for the gen-ed courses he had no interest in. After dropping out, he stayed on campus and sat in on lectures he actually wanted to learn about. He took English courses where he studied Shakespeare, dance, and calligraphy (Lehrer, 2017). Steve Wozniak, one of the co-founders of Apple, once said "Steve didn't ever code, he wasn't an engineer and he didn't do any original design, but he was technical enough to alter and change and add to other designs." (Love, 2013). If Steve Jobs could help build a multibillion dollar technology company and leave an ever lasting legacy behind after studying dance and english in college, then there is no reason to feel inferior towards anything you could envision in the tech world. The world needs a female-version of Steve Jobs to help inspire all majors that anything is possible!

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LINGUISTIC UNDERREPRESENTATION IN TECH

LUCIEN MENSAH

WHAT DOES LINGUISTIC UNDERREPRESENTATION LOOK LIKE IN TECHNOLOGY?

As our society moves more and more online, through the internet of things, to social forums to connect with people, to designing more intricate algorithms to automatic tasks, we must consider what languages people use to actually create these programs, what languages are supported, and most importantly - what are we doing to ensure all languages are represented online and in technology as a whole.

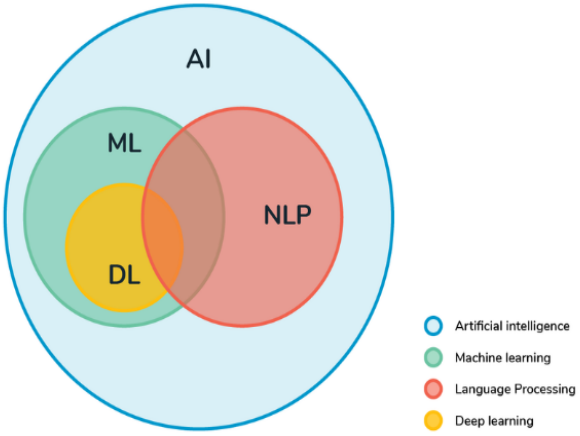
HOW MANY LANGUAGES ARE SPOKEN IN THE WORLD?

As of right now, there are about 7,139 languages spoken in the world, but **23 languages account for more than half the world's population.**

WHAT MIGHT THIS MEAN IN THE CONTEXT OF TECHNOLOGY?

We understand that accommodating and having access to all of these languages allows us to gain a better spread of cultural knowledge and new methodologies for looking at problems. As Natural Language Processing, Artificial Intelligence, Machine Learning, and Deep Learning become hotter topics in the tech world, it can't be helped but to wonder -

who is being left out of this dialogue?



There is a great division between High Resourced Languages, such as English, (Mandarin) Chinese, Arabic, French, German, Portuguese, Spanish, and Finnish, and Low Resourced Languages, such as Akan, Yoruba, Tagalog, Thai, Welsh, and at least 4,000 more languages. Resources refer to the amount of collections of digitized text and recorded speech, and of course, it must be recognized that all of these languages are spoken, and not signed languages. These collections have transcriptions and annotations, making them perfect for NLP tasks. (Bender) One way to observe the way non-English languages are being left out of the conversation is the difficulty to reproduce non-English orthographical systems online. For languages that can be written with the Latin alphabet, this poses less of a barrier, but within this we must also take into account the tenant of white supremacy - worship of the written word. This means that for languages typically passed down through oral traditions, there is immediately an intrinsic bias to disregard these languages in NLP and Machine Learning development

"Fewer than 400,000 people speak Icelandic, and so Icelanders casually switch to English to give voice commands to their devices. Some see the lack of technology in their native language as a contributing factor to the dominance of English and the decline of Icelandic."

As technology requires users to speak English in order to access different websites, applications, and software, it allows English to continue to dominate, ostracize, and Other non-English languages - especially languages that are endangered. An endangered language is one that is at risk of disappearing as its speakers die out or shift to speaking other languages, and oftentime the reason this occurs is when a group or community finds itself under pressure to subscribe to a larger or more powerful group. Oftentimes, English, as a language with power, takes this dominant role in regards to technology (and other spheres, such as colonialism, of course).

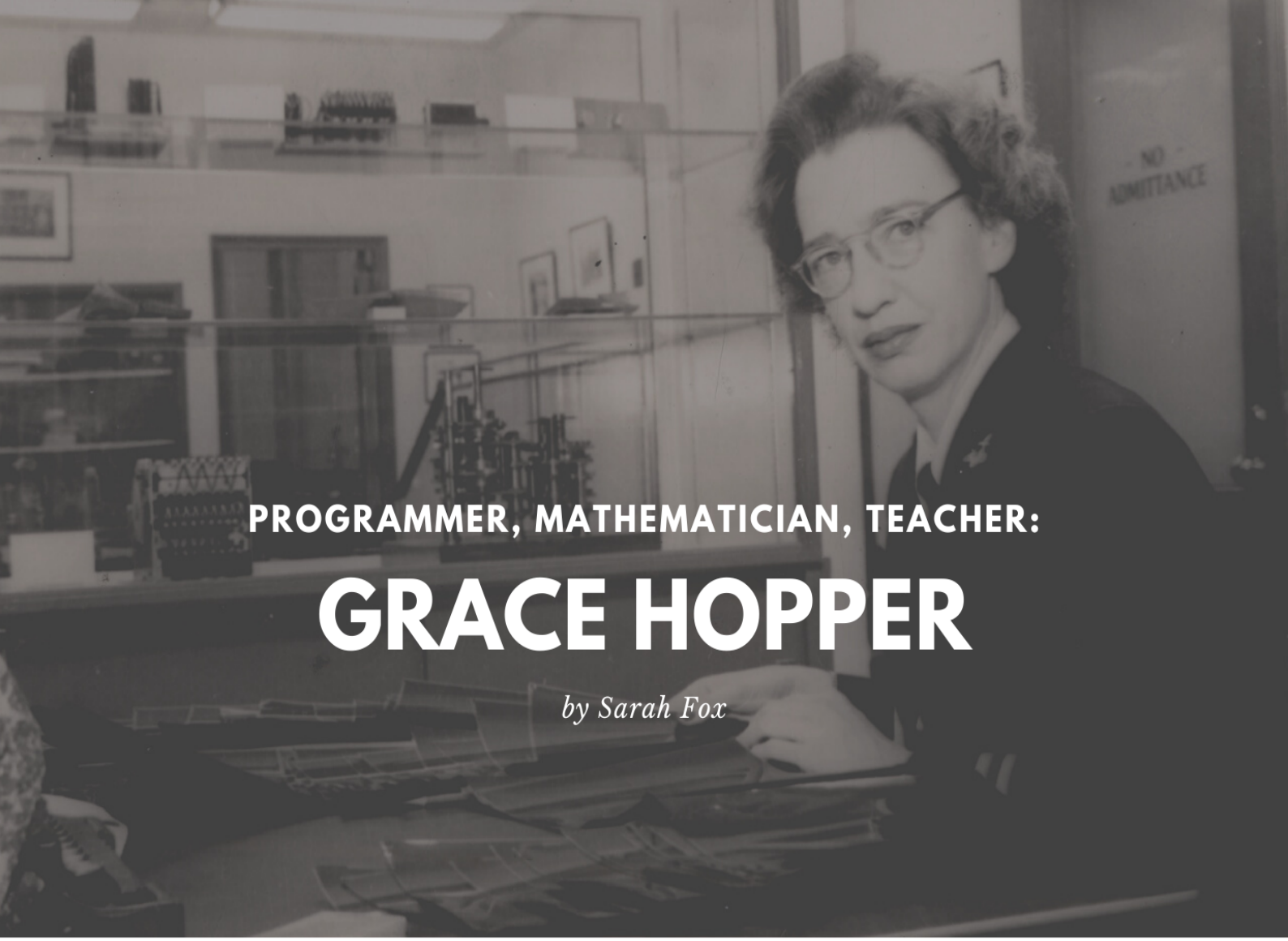
Even as technology begins to understand these other perspectives and develop NLP models in other languages (after English), often the robustness, accuracy, and efficiency lag behind English models. Almost all languages besides English are left out of state-of-the-art developments. Additionally, this means that in order to attempt to match the pace that English language models are setting, it is often left to community members to develop these programs for themselves. GhanaNLP is an example of such a group that seeks to create NLP models for Twi and other Ghanian languages, which is being achieved through open-source work.

HOW CAN WE REMAIN CONSCIOUS OF THESE ISSUES?

First, it is important to recognize that technology is not all bad for these languages. There are technologies developed to encourage language learning for a multitude of communities and as the internet generally increases connectivity between users, many are able to connect and find others dedicated to their goals of language revitalization.

One important rule as well, pioneered by Dr. Emily Bender, known as the Bender Rule, is to ***"always name the language you're working on"***. Staying aware of the bias that English-centered text creates allows us to know where our datasets might be failing. Additionally, there is not only language bias, but dialect bias, and being aware and stating these, too, will be transferable to other inequitable practices in our day to day lives.

Sources:



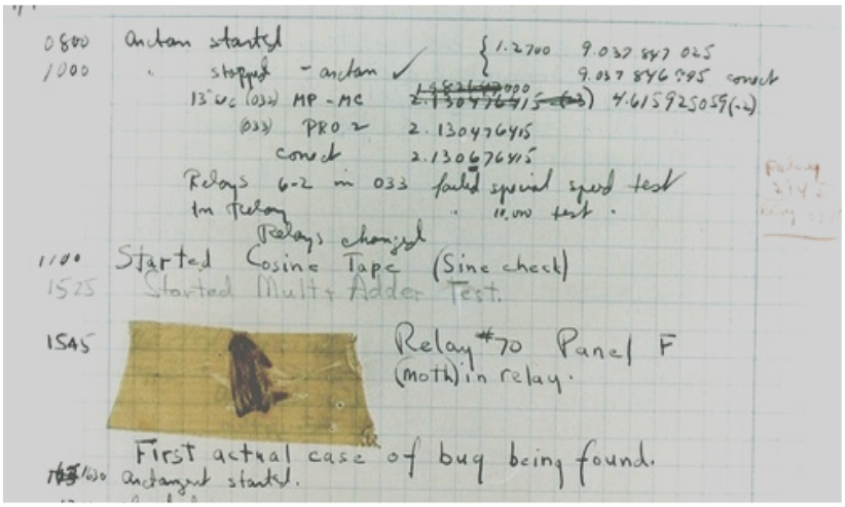
PROGRAMMER, MATHEMATICIAN, TEACHER:

GRACE HOPPER

by Sarah Fox

Most people in the technology field know of the Grace Hopper Celebration of Women in Computing, the largest conference for women technologists in the world, but many don't know the story of behind its namesake.

Grace Hopper was one of the most influential mathematicians of the 20th century, receiving numerous awards and commendations including the National Medal of Technology and the Presidential Medal of Freedom for her work in computer science. Former President Barack Obama even mentioned her in his 2016 State of the Union address, saying , "That spirit of discovery is in our DNA. America is Thomas Edison and the Wright brothers and George Washington Carver. America is Grace Hopper." She is credited with developing the first complier language, A-0, making her one of the earlier programmers. A-0 allowed programs to be written for multiple machines rather than just one by translating mathematical code to machine readable code, thus becoming the basis for modern programming. Later, she developed the first human-friendly code called Flow-Matic with English statements rather than mathematical symbols, opening the field to everyone rather than exclusively to high level mathematics and computer scientists.



Hopper saved the moth in her notes that resulted in the term "bug" in computer programming.

Hopper spent most of her career in the United States Navy in conjunction with Harvard University working on Mark I and Mark II, the earliest computers. She was inspired to join the armed forces after the bombing of Pearl Harbor. Little did she know she would become the oldest serving officer in U.S. military at 79 when she retired as a rear admiral. During her time there, she coined the word “bug” to describe a coding error when there was a moth in the hardware of the Mark II computer. Although her work in the Navy was incredibly influential, her heart laid in teaching. She taught mathematics at her alma mater, Vassar College, as well as George Washington University and the University of Pennsylvania. She once said, “If you ask me what accomplishment I’m most proud of, the answer would be all the young people I’ve trained over the years; that’s more important than writing the first compiler.”

Thus began one of the largest conferences in the world. Tulane University students have long been attendees through grants provided by Newcomb Institute, and continue to benefit from Hopper’s love of teaching. Every year, speakers and industry professionals gather to inspire the next generation of women technologists just like Hopper did for her students. Hopper, much like women in the technology industry today, was no stranger to the downfalls of her sex when it came to job opportunities, so the impact of this conference is life-changing. During her time at Harvard working on projects for the U.S. Navy, she realized the administration had no intention of promoting her to a tenure track , prompting her to enter the private sector. Today, a similar sentiment is still felt by women in the technology field. A report conducted by Capital One concluded that 20 percent of women leave the field due to limited opportunities for advancement. For this reason, conferences aimed at supporting the advancement of women in technology remain important and would earn the approval of Hopper. In 1992, she was laid to rest with full military honors at Arlington Cemetery, but her legacy will forever live on through Grace Hopper Celebration attendees and their accomplishments as women in technology.

“If you ask me what accomplishment I’m most proud of, the answer would be all the young people I’ve trained over the years; that’s more important than writing the first compiler.”

- Grace Hopper

ADHD

A GENDER GAP IN DIAGNOSES

by Erica Casareno

The rising prevalence of ADHD has garnered global attention and prompted epidemiological and economic controversy. Considering the fact that ADHD cannot be identified with any biological test and that a growing gray market for prescription ADHD medications may incentivize patients to feign symptoms, a major question in the ADHD debate is whether new cases are false positives or cases that would have gone undetected in the past. Some experts hypothesize that gender and sex may provide some useful clues to answer this question.

STEREOTYPES vs. STATISTICS

Two of the most prevaling stereotypes regarding ADHD have been that ADHD is a childhood disorder and that ADHD is a male disorder. While it is true that ADHD is one of the most common neurodevelopmental conditions in childhood, it is incorrect to assume that ADHD only affects children

According to diagnostic interview data from the National Comorbidity Survey Replication, 4.4% of adults are estimated to have ADHD. Similarly, while it is true that boys are more than three times more likely to receive and ADHD diagnosis than girls, ADHD cannot be considered a male disorder. The prevalence of ADHD is lower among females than males, nonetheless, a 3.2% prevalence of ADHD among females represents millions of people.

Additionally, research has shown that when ADHD presents in women and girls, it is more likely to go unidentified or undiagnosed. More women and girls are diagnosed with ADHD now than in the past, but compared with male counterparts, females are still more likely to receive diagnoses later in life.

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WHY ARE FEMALES GETTING DIAGNOSED LATER IN LIFE?

Numerous studies have supported that ADHD presents differently in males and females. Compared with males, females are more likely to struggle with forgetfulness and distractibility and less likely to present hyperactive symptoms associated with ADHD. Additionally, females with ADHD are less likely to present disruptive behavior than male counterparts. In schools, girls with ADHD are less likely to cause disruptions and more likely to seek outside help to complete assignments, therefore teachers are less likely to refer girls for ADHD evaluations. Overall, females with ADHD are more likely to fly under the radar.

Although there is significant evidence supporting the idea that women with ADHD are underdiagnosed and undertreated, our clinical understanding of ADHD in women and girls is limited. The majority of studies on ADHD have focused mainly on males and male presentation of ADHD. Diagnosing females becomes difficult when the majority of our understanding of ADHD is based off of male symptoms.

THE COST OF A LATE DIAGNOSIS

Later diagnoses put people with ADHD at increased risk for anxiety, depression, low levels of workplace productivity, low academic achievement, poor financial management, accidents, and criminality. People with female reproductive systems and ADHD are at greater risk of unplanned pregnancies. A diagnosis can help people with ADHD to access treatments such as therapy orprescription treatments that can aid symptom management.

SO HOW CAN WE HELP GIRLS GET DIAGNOSED?

1.Educate the schoolteachers, healthcare providers, parents, and the general public about ADHD and how it presents in females

2.Encourage research that focuses on female symptom presentation and experience with ADHD

3.Amplify the voices of women, girls, and other folks with female reproductive organs who have ADHD

CDC. (2021, January 26). What is adhd? Retrieved March 28, 2021, from https://www.cdc.gov/ncbddd/adhd/facts.html

CHADD. (2021). Women and girls. Retrieved March 28, 2021, from https://chadd.org/for- adults/women-and-girls/

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Skogli, E. W., Teicher, M. H., Andersen, P. N., Hovik, K. T., & Øie, M. (2013). ADHD in girls and boys-- gender differences in co-existing symptoms and executive function measures. BMC psychiatry, 13, 298. https://doi.org/10.1186/1471-244X-13-298

WIT X WIB PANEL REVIEW

by Sarah Fox

On March 31, 2021, two Newcomb Institute organizations, Women in Technology and Women in Business, partnered to host a panel featuring women working at the intersection of these two fields. They discussed their experiences in male-dominated environments and offered advice to Tulane students. The panelists were Allyson Mackay, Senior Vice President of Solution Management at Viewpointe; Sarah Kerin, Global Supply Manager at Apple; and Rachel Bailey, Data Relations Manager and Legal Data Expert at Lex Machina. These accomplished women have all faced gender bias in the workplace but assured students that change is coming.

This new workplace culture features women in leadership roles, unconscious bias training, women and LGBTQ groups, and paternity leave. Kerin shared that entering supply chain operations was challenging because she was only one of a few women in the organization, none of whom held leadership positions. However, this disparity motivated her to climb the ranks to show other women that it was possible to hold a leadership position. She added that the best way to get more women involved in leadership roles is to make sure they have a seat at the table. She said that if she was sitting in a conference room and saw other women towards the back, she would invite them to sit upfront with her. All the panelists agreed on this point: women must support each other through mentorship or sponsorship.

When speaking about how they reached their current positions, all three panelists had a mentor or a sponsor to thank. Whether it be a boss or professor, having an ally in a new environment is a great way to break through bias and gain acceptance. Mackay, a former PWC employee, was brought to her current company by her boss, where he championed her success in a new role in a new industry (financial technology), and continues to be a great sponsor for her. Mentors also bring new opportunities within the same company, such as branching into a new department. For Bailey, she began working on public relations strategy and product marketing with the PR team to utilize her communications skills and legal expertise.

Overall, the panel offered a light at the end of the tunnel for gender discrimination and workplace bias. Interestingly enough, working from home due to the COVID-19 pandemic has sped up the process and helped change gender dynamics for the better. The panelists agreed it is much harder to talk over someone else in a video call than in person since they can signal that they are about to unmute themselves, thus giving women more of a voice. However, it is crucial to continue the conversation on improving gender dynamics at work to achieve full equality. A great way to propel the conversation is with panels like this that inspire the next generation of women CEOs, CFOs, and CTOs to fight for what they deserve.

Allyson Mackay

Sarah Kerin

Rachel Bailey

RACIST BY DESIGN:

Kila Moore

BLACKNESS AND DIGITAL ERASURE

While the World Wide Web has become a crucial instrument and accessing information and connecting with people globally, it is also important to recognize the bias that exists in its design. In recent years, tech scholars whose work focuses on decolonizing the digital space have found numerous design flaws that yield racist algorithms and surveillance software that targets Black people. The following piece will provide an overview of some of their findings.

SEARCH ENGINES

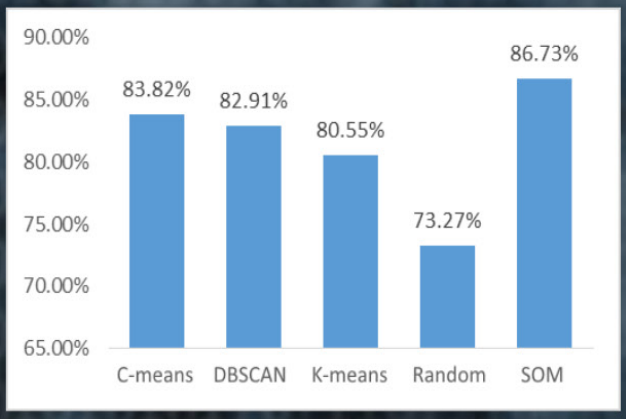
Recently, Pinterest, the social media service that allows you to discover and "pin" interests using images, sought to diversify search results by allowing users to filter specific skin-tone options for searches related to topics such as "make-up" tips. This move follows complaints of the platform's lack of inclusivity among results relating to beauty and lifestyle. But this is not an issue unique to Pinterest: in 2016, researchers found that search engines often perpetuated negative stereotypes about Black women and positive stereotypes about white women in regards to physical attractiveness.

Conversely, Black women are hypervisible in ways that are considered profitable, and this is usually in the form of hypersexualized representation in search engine advertisements. Only a decade ago, searching "black girls" in the Google search engine would yield top results relating to pornography and negative attributes of Black women. Although Google is constantly modifying its search optimization, its current state portrays the relationship between identity-marking and agency --who is racialized and who benefits from this racialization. It is due, in part, to both the design behind the algorithms and human consumption, and it underscores a larger issue in the way society treats Black women.

ARTIFICIAL INTELLIGENCE

Additionally, progressions in artificial intelligence have highlighted racism in facial recognition technology. Facial recognition, specifically, out of the five key biometrics (fingerprint, iris, palm, voice, and face), is the most inaccurate and proves to be the most dangerous.

Police and other militarized forces often utilize facial recognition to find "suspects," and it is often done without consent. Though face recognition is considered to have a high accuracy rate of 90 percent, studies have shown that there are huge errors among different demographics, particularly for young Black women. A primary function of the police is to surveil people they deem as a threat, and this function often comes at the expense of organizers and activists.



*Success rate of face recognition based on clustering algorithms tested on PIE database

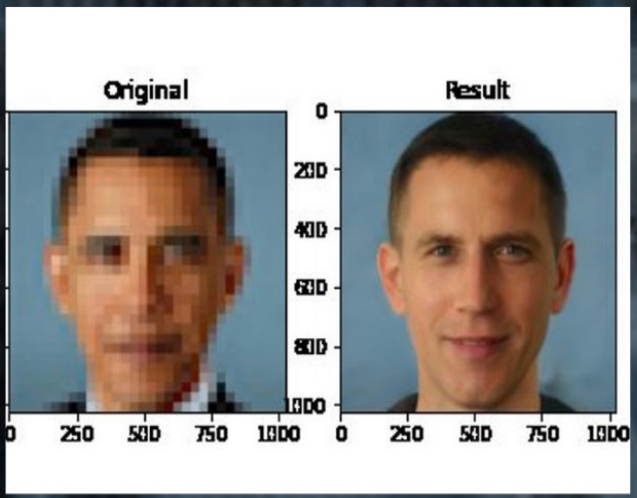


Image: Twitter / @Chicken3gg

Flaws in facial recognition often extend into the social media sphere. Twitter recently launched a study into why its platform automatically cropped out Black faces4 in its image-sharing feature. Though Twitter directors are looking into the issues, it is clear that bias in tech exists beyond the design. In fact, in a study done by the National Institute of Standards and Technology, researchers found that even the best algorithms struggle to identify darker skin5. This presents a problem not only in the digital space but in surveillance software utilized by the police.

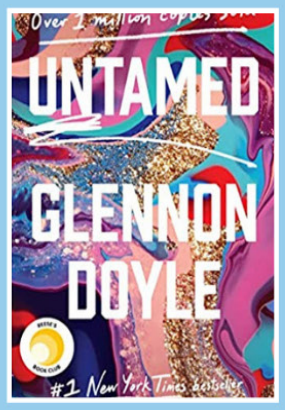
Further research should be done to address the implicit and explicit bias present in technology. Not addressing the issues will cause more problems for marginalized groups, particularly as artificial intelligence-reliant surveillance continues to expand.

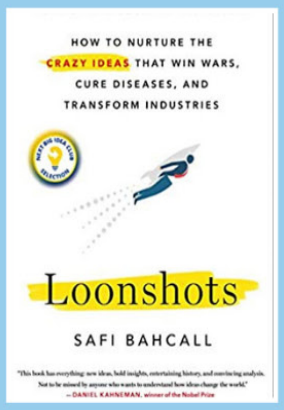
Sources: * Oravec, Milos & Sopiak, Dominik & Jirka, Vojtech & Pavlovicova, Jarmila & Budiak, Mark. (2015). Clustering algorithms for face recognition based on client-server architecture; 1) Pardes, Arielle. "Pinterest Wants to Diversify Your Search Results." Wired, Conde Nast,; 2) Araújo, Camila Souza, et al. "Identifying Stereotypes in the Online Perception of Physical Attractiveness." Lecture Notes in Computer Science, 2016, pp. 419-437. 3) Safiya, Umoja Noble. "Google Search: Hyper-Visibility as a Means of Rendering Black Women and Girls Invisible." InVisible Culture, no. 19, 2013. 4) Hern, Alex. "Twitter Apologises for 'Racist' Image-Cropping Algorithm." The Guardian, Guardian News and Media, 21 Sept. 2020; 5) Simonite, Tom. The Best Algorithms Still Struggle to Recognize Black Faces.

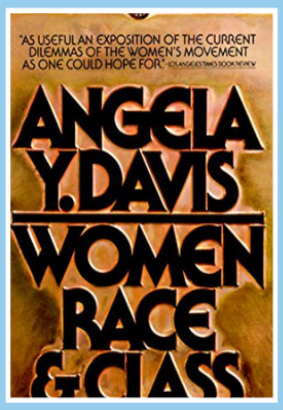
THE DIGITAL RESEARCH INTERNSHIP PROGRAM'S

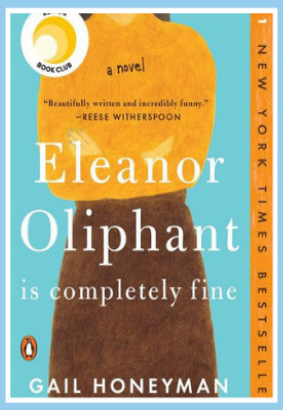
RECOMMENDATIONS

BOOKS



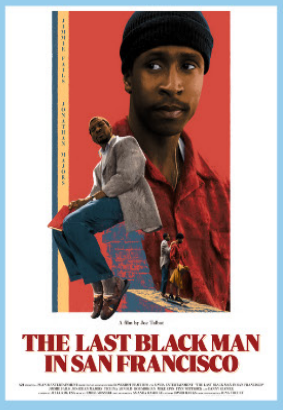


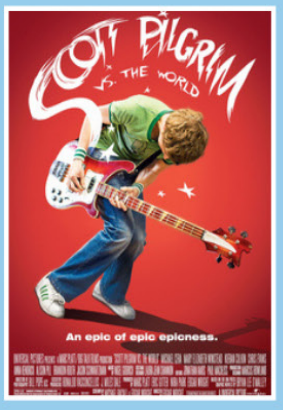


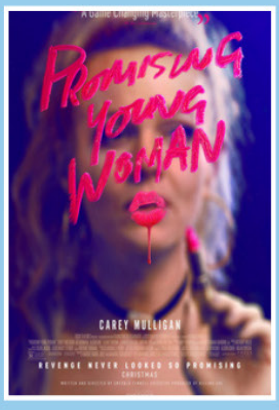


Untamed (Glennon Doyle), Loonshots (Safi Bahcall),
Women, Race, and Class (Angela Davis),
Eleanor Oliphant is Completely Fine (Gail Honeyman)

MOVIES

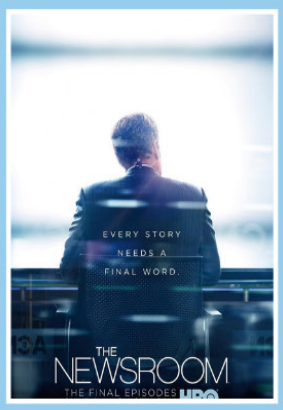


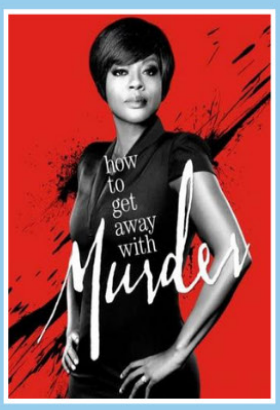




The Last Black Man in San Francisco (2019), I Care A Lot (2021)
Scott Pilgrim vs The World (2010), Promising Young Woman (2020)

SHOWS

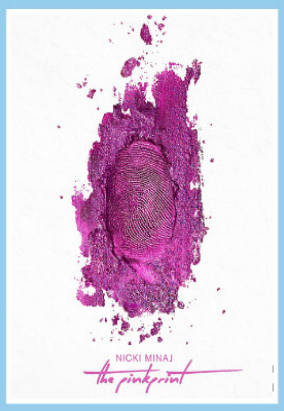


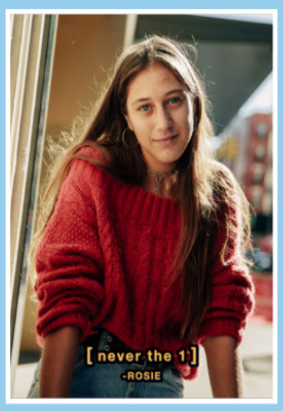


GLOW (Netflix), The Newsroom (HBO)
Big Sky (ABC), How to Get Away with Murder (ABC, Netflix)

AND THERE'S MORE!

MUSIC

Meet Me at the Altar, Pink Print (Nicki Minaj), Beach Bunny, Rosie

PODCASTS

Black Feminist Rants (LaKia Williams), The Daily (The New York Times
The Michelle Obama Podcast (Michelle Obama and Spotify), Crime Junkie (Ashley Flowers and Brit Prawat)

EATS

Chill Out Cafe (729 Burdette St), Blue Oak BBQ (900 N Carrollton Ave)
Drip Affogato Bar (703 Carondelet St), Levee Baking Co. (3138 Magazine St)

THE

DIGITAL RESEARCH INTERNSHIP PROJECT POSTERS

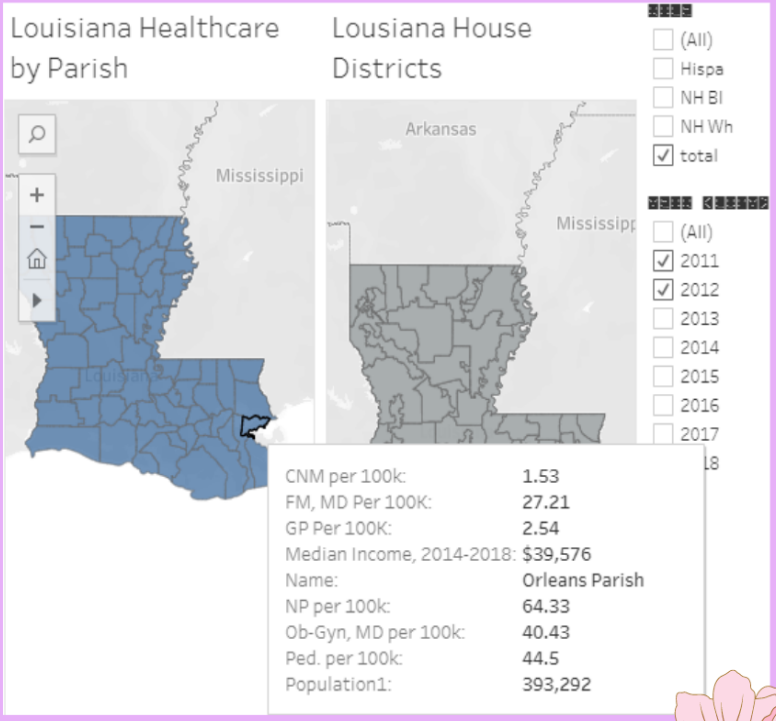
The Digital Research Internship Program worked on a multitude of projects throughout the year. The following posters describe the mission of the research projects and the work completed by the Digital Research Interns. These projects ranged from categorizing archival materials to creating websites. We worked with faculty in a variety of fields such as English, Public Health, and Computer Science.

Maternal and Child Health Coalition

Project Owner: Dr. Clare Daniel

The Mission

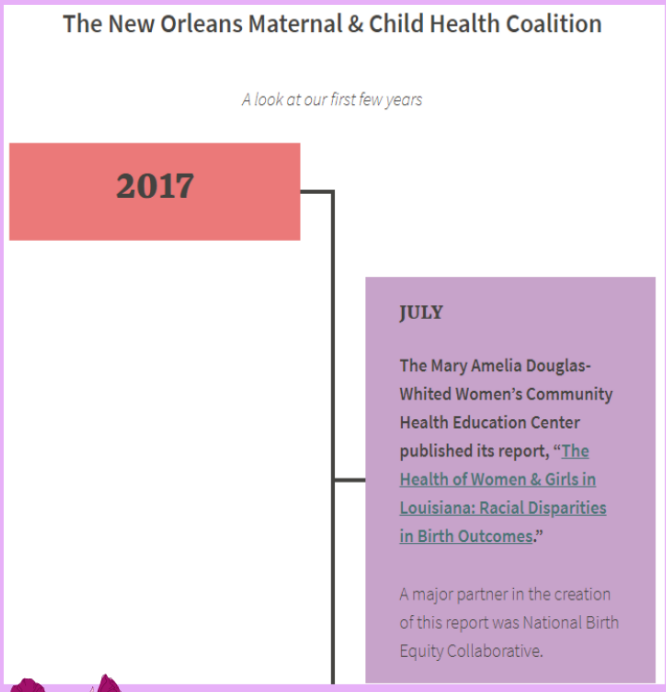
We aim to improve outcomes, experiences, and access to quality, respectful care during pregnancy, birth, and the postpartum period by centering the experiences of Black birthing people and their infants in New Orleans.



The Technologies

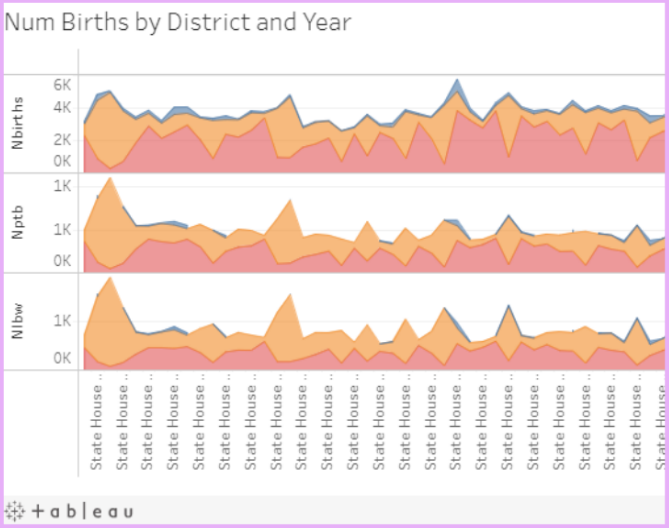
- Tableau
- WordPress
- WordPress Plugins

"We believe that healthcare is a human right and should be equally accessible to all"



The Project

- A map that tracks the inequities in healthcare for birthing people.
- The interactive map will serve as an educational tool for coalition advocacy efforts and goals
- Maintaining the documentation of their hard work remains, with a timeline
- Website development and management



URLs

- https://nolamch.org/
- https://public.tableau.com/profile/nci.tech#!/vizhome/LouisianaParishesHealthcareOutcomeMap/Dashboard1

TRANSITIONAL JUSTICE

PROJECT OWNER:
DR. GEOFF DANCY

DIGITAL RESEARCH INTERNSHIP
FALL 2019-SPRING 2021

WHAT IS TRANSITIONAL JUSTICE?

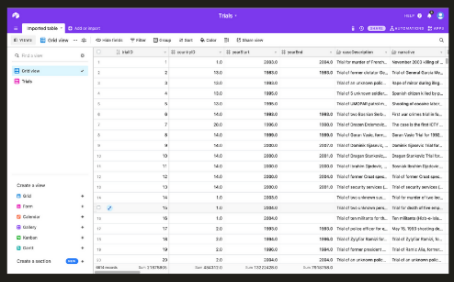
Transitional Justice collects, classifies, and distributes global data on human rights policies known as transitional justice. These policies include prosecutions of human rights violators, truth commissions, reparations policies for victims of violence, and other justice sector reforms. Such policies are invaluable resources for practitioners and scholars who examine the causes and effects of mechanisms that address human rights violations.

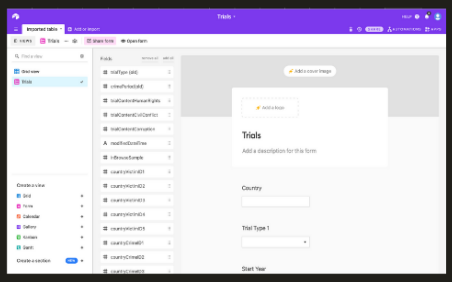
In junction with Dr. Geoff Dancy, an associate professor in Tulane's Department of Political Science and the former director of a National Science Foundation project known as Transitional Justice Research Collaborative, the Newcomb Institute's team of Digital Research Interns have been working over the past few years to improve the *TransitionalJusticeData.com* website interface and to facilitate data entry and storage.

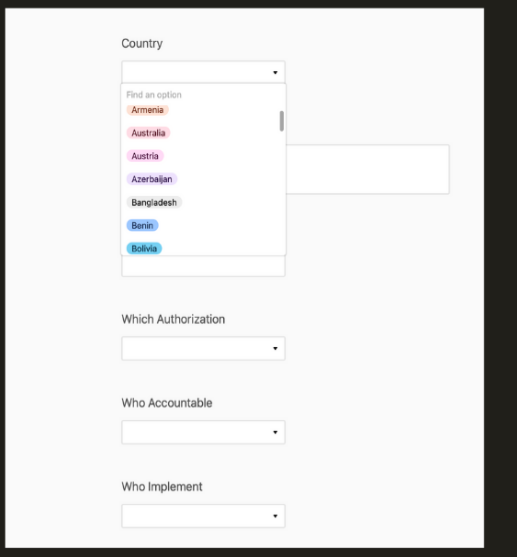
TransitionalJusticeData.com

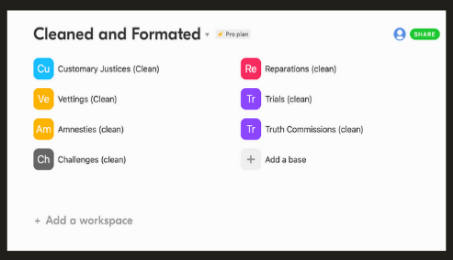
WHAT WE'VE BEEN WORKING ON THIS YEAR:

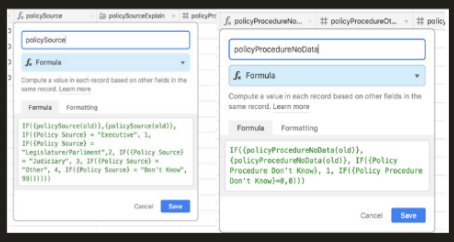
In order to support the growing Transitional Justice database, our team of Digital Research Interns researched several data entry and storage methods. After opting to rebuild the database in AirTable, the team cleaned and transferred the data from the existing Microsoft Access database. Additionally, the Digital Research Interns recreated input forms which will allow coders to easily add new information to the AirTable database.











Clockwise: cleaned data in AirTable, AirTable form builder, finished form with dropdown menu, formulas to create dropdown menu and checked box options for forms, AirTable workspace

TRANSITIONALJUSTICEDATA.COM

WATCH MORE:

SOCIETY FOR ANIMATION STUIDES
2021 CONFERENCE

ANIMATE ENERGIES

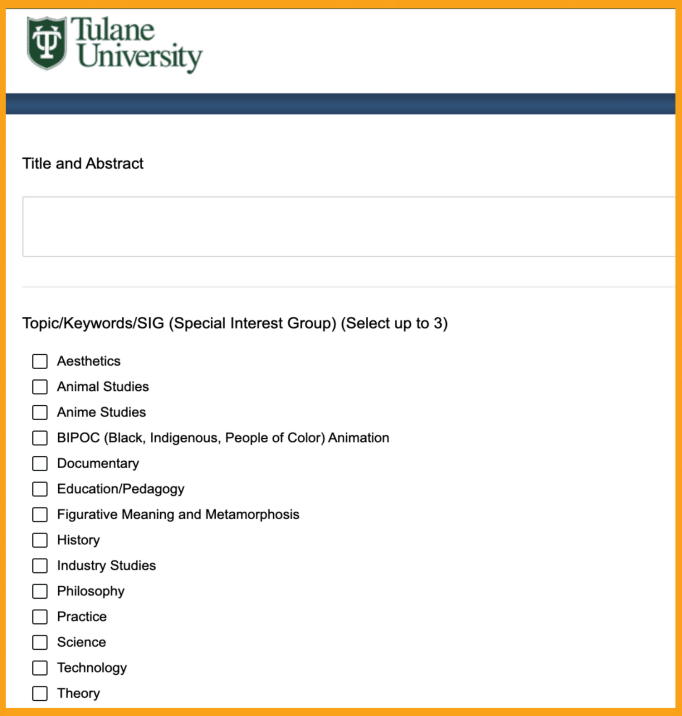
scan to learn more about the project

Each year, the Society for Animation Studies (SAS) holds an annual conference at locations across the globe, where members present their research and participate in exhibits and screenings. The SAS is an international organization dedicated to the study of animation history and theory. Tulane will be hosting the 32nd annual SAS conference: Animate Energies.

This was a great project to work on as a DRI team, as animation has become a multidisciplinary field that is influenced by several disciplines including media studies, literary studies, anthropology, philosophy, science and technology studies, computer science, digital arts, and film and cinema studies.

Hosting Online Conference
The conference was originally scheduled to be in New Orleans during summer 2020, but was delayed until summer 2021 because of COVID-19. When we took on the project, we faced uncertainty about whether or not the conference would be able to take place in person. Given the task of planning and assisting with the conference, the DRI team prepared for three scenarios: an in-person conference in New Orleans; a completely virtual conference; and a hybrid form that would include parts of both. After consulting guidelines set by Tulane and the city of New Orleans, it was decided that hosting the conference online would be the best and safest option for everyone involved. We then devoted our research to evaluating online conference software and developed a pros and cons list of different ways to host the conference virtually.

zoom
vimeo
attendify


Tulane University

Title and Abstract

Topic/Keywords/SIG (Special Interest Group) (Select up to 3)

- [ ] Aesthetics
- [ ] Animal Studies
- [ ] Anime Studies
- [ ] BIPOC (Black, Indigenous, People of Color) Animation
- [ ] Documentary
- [ ] Education/Pedagogy
- [ ] Figurative Meaning and Metamorphosis
- [ ] History
- [ ] Industry Studies
- [ ] Philosophy
- [ ] Practice
- [ ] Science
- [ ] Technology
- [ ] Theory

Survey Creation and Anonymization
We designed an application for new and previously accepted proposals for the conference. Using Qualtrics survey software to collect and store the results, we then downloaded and anonymized the submissions for judging. We filtered the data to find the new proposals and removed all identifying information in order for the proposals to be judged anonymously. Lastly, we sorted the proposals by submission category and formatted them for easy viewing and judging.

DIGITAL RESEARCH INTERNSHIP
FALL 2020-SPRING 2021
Project Owner: Eric Herhuth

PROJECT OWNER: DR TIFFANY GONZALES
DIGITAL RESEARCH INTERNSHIP
FALL 2020 - SPRING 2021

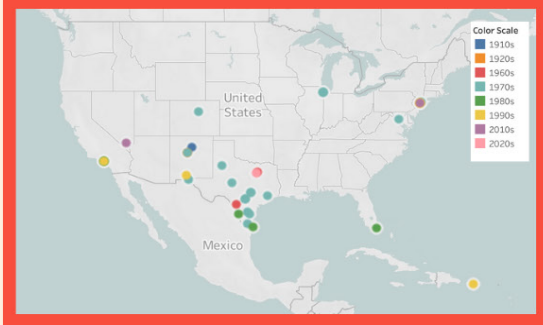
CHANGING REPRESENTATIONS

TRACING LATINA INVOLVEMENT IN AMERICAN POLITICS

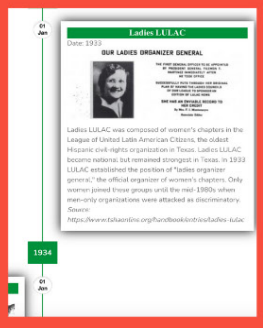
Changing Representations is a digital humanities project that aims to visually capture the history of Latinas in the United States who have been involved in politics through running for public office, serving in government positions, or creating organizations designed to increase and empower women's involvement in government roles. The goal of this project is to create public awareness of the history of Latinas in American politics to uncover some of the structural and societal barriers women face.

WHAT WE'VE DONE THIS YEAR

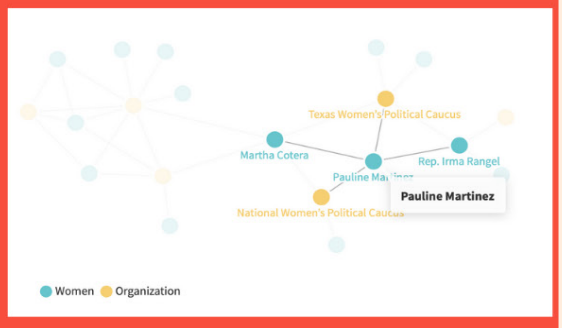
The Digital Research Interns collaborated with Dr. Gonzales to build Changing Representations by conducting research on Latinas' history of political engagement and beginning to design the Wordpress website from scratch. The team used this research to write biographies for the featured Latina women and create customized visualizations of this data. These visualizations include:



Mapping historical Latina women who have been politically active across the US using Tableau



Compiling a timeline of the history embedded onto the Changing Representations website



Building a network of Latina women in politics in Texas using Flourish

READ MORE AT
CHANGINGREPRESENTATIONS.WP.TULANE.EDU

VIA NOLA VIE

ViaNolaVie is a regional lifestyle and culture online magazine launched in 2018 as a partnership between *NolaVie* Magazine and Tulane University. Every year, hundreds of university students, citizen journalists, photographers, and writers contribute content focused on local voices and knowledge. The magazine's mission is to uplift and preserve those contributions to make them publicly accessible to our community.

CURATION

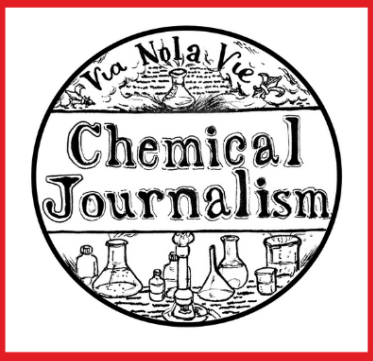
We have developed curations of over 7500 archived stories to give them new life and to add a different perspective on the most prominent issues facing New Orleanians today. Curations ranged from sociolinguistics to influential New Orleans women.

WORDPRESS

We facilitated shared WordPress content with magazine partners to ensure Creative Commons materials exchange for future curations. Also, we led an overhaul of the back end of VNV to improve student accounts by enhancing the language and images of their profiles.

LOGOS

We created options for an updated logo and badges for VNV, including a new default option and images for all the different student classes. We used Canva, Paper (a drawing application), and Adobe Illustrator to design these images.



ViaNolaVie

Scan to view showcase presentation

Project Owners: Vicki Mayer & Kelley Crawford
Digital Research Internship

archive, and classroom exhibit space for Newcomb undergraduates and faculty.

The Sophie Lab educates undergraduates about the importance of diversity and inclusion in STEM. It is a curated digital space that communicates Newcomb Institute's role in gender equity in STEM through undergraduate programming. . It also provides educational resources for undergraduates to help bridge the gender gap in STEM. This project promotes feminist leadership in technology-centered communities.

The Sophie Lab website represents the work of the following undergraduate groups in partnership with Newcomb faculty:

- Digital Research Interns
- Information Technology Interns
- HASTAC Scholar
- Grace Hopper Celebration Grantees
- Women in Technology student group
- Society of Women Engineers student group
- Newcomb Institute Research Assistants

GITHUB

The Sophie Lab site contains different repositories that host information on a variety of topics, such as:

Access: Hosts information about creating and managing a Microsoft Access database and corresponding forms.

QualtricsSurvey: Consists of information about using the survey platform Qualtrics, providing an overview of the software, a sample workflow, and planning information about the Animate Energies conference submission process.

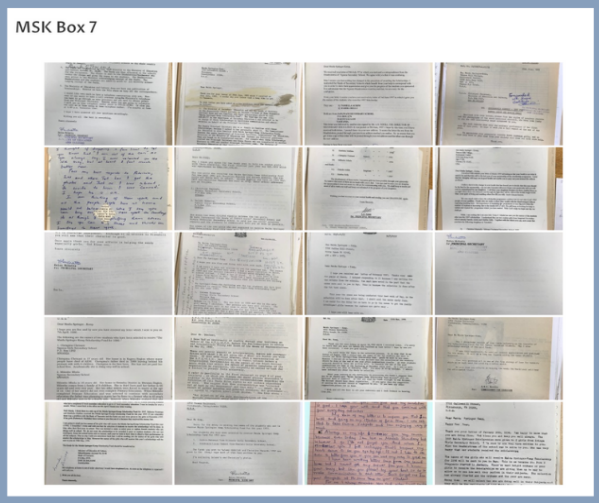
WordPress: Contains material that Newcomb Institute's Digital Research Team created as we work on existing WordPress sites and made new ones.

LocalHostDevelopment: Keeps track of all of the development Newcomb Institute's Digital Research Internship has made towards Local Host Development.

VisualisationTools: Stores all of the information about the different types of tools for Data Visualization

THE AFRICAN LETTERS PROJECT

Headed by Dr. Elisabeth McMahon, an assistant professor in the Department of History at Tulane, the African Letters Project (ALP) is a digital collection of letters written by African and American authors during the mid-20th century. The project's primary purpose is to serve as a digital preservational space for correspondence relating to African decolonization and to particularly provide a framework to analyze networks between those in the African continent and those who resided in the United States.



Subject	Amendment of the record request
Date	5/22/80
People from	D.B. Sole
People to	Ray Denison
Place from	Washington D.C.
Place to	Washington D.C.
Collections	Amistad Research Center

In the fall of 2020, DRI interns designed a method for displaying hundreds of letters on the ALP website, each accompanied with its own metadata in accordance with The Dublincore Metadata Initiative. The following semester, the interns focused on creating a procedure to automate the metadata uploading process and link each letter's Dublincore page to its gallery view. Interns collaborated with Dr. McMahon on product design and underwent research to optimize UX/UI Design.

Project Owner: Elisabeth McMahon
Digital Research Internship | Fall 2020 - Spring 2021
africanlettersproject.tulane.edu

Watch ALP video! ->

THE INFORMATION TECHNOLOGY INTERNSHIP PROGRAM

In the **Information Technology Internship Program**, undergraduates support technical operations within a non-profit research and education center. Undergraduates work in technical areas such as digital research, asset management, IT customer service, and Classroom/AV support. This paid internship supplements students' majors and minors when seeking employment or prestigious technology internships.

Gender Disparities in WIRED MAGAZINE

Sophie Tanen

WIRED is a magazine with monthly issues, publishing articles and pictures centering around technologies. It's no secret that there are gender disparities when it comes to representation for women in computing and technology, and despite their mission statement revolving around culture and politics, WIRED is no exception to these numbers.

We can find the best and most obvious examples of these disparities through the covers of each issue. I looked back at all the WIRED issues I could find since April 2018, excluding only November 2018, May 2019, October 2020, and January 2021. The cover pictures can be split into three categories: those featuring men, those featuring women, and those not featuring humans at all. While a good portion of the covers show other images as opposed to people, the number of covers featuring only women is half the number featuring only men. Attached on page three, Figure 1, is an interactive graphs that shows exactly which issues feature who.

What really caught my eye, though, was far more than just the images on the cover. A cover of a magazine features far more than just the picture of a person or thing in the center. Scattered across the cover, we'll find blurbs of texts, giving us information about what is contained within the pages. More often than not, the authors distinguish one featured article over all the rest, detailing the title of the article as well as the author's name. As opposed to the pictures on the cover, which didn't always feature people, there was almost always at least one article in the spotlight position on the front. Over the past three years, over 72% (nearly three quarters) of the monthly issues that featured an author, featured a man as opposed to a woman.

Gender Disparities in WIRED MAGAZINE

Sophie Tanen

Additionally, there are several instances where there are featured articles on the cover by both men and women, but only the man's name is featured. Moreover, in every instance where there is more than two featured authors (such as January 2019 and December 2018), there are more men featured than women. Attached on page 3, labelled Figure 2, is a second interactive graph, this time detailing the representation found through these articles.

While we can track WIRED"s improvement through the years when it comes to representation in gender, they still have a long way to go. You'll be able to see in the graphs that three years ago, in 2018, there were no covers featuring a picture of a woman. In addition, none of the issues featured an article written by a women until the July/August issue of 2019. That means there was over a year where the WIRED Magazine cover was entirely dominated by men. Thankfully, this hasn't happened since, but there are still blocks where months go by without a women's picture or name making its way onto the cover. If we're going to develop proper gender representation in tech jobs across the country, this needs to be represented in the media as well, and this includes in WIRED Magazine.

Figure 1

Figure 2

2020-2021 WRAP

Training

In Fall 2020, a classroom support and technology training was storyboarded, developed, and filmed to help future employees at Newcomb Institute. In the Spring, the Training as distributed over Newcomb's many websites and accounts

Equipment and Inventory

The Cabinets and all equipment were moved from the lab to a more fitting location, and the equipment was organized accordingly. We took inventory of all the computers in the cabinets and in both labs.

Gaudet Project

Hundreds of files were moved from a desktop computer to a box account so that users could have better access to the files

Gender and Tech Research

Researched various topics to find articles and data for faculty projects.

SOPHIE TANEN

Grants

Grace Hopper Celebration of Women in Computing is the world's largest gathering of women technologists. Named after computer scientist Grace Hopper, these conferences bring together students, companies, educators, and professionals.

The **Gender and Tech Research** grant program offers grants for undergraduates who want to conduct research on topics relating to gender and STEM. Students will work approximately 30 hours producing a STEM research project that will be published on the SophieLab website. Students can propose their own projects or have one assigned to them.

Virtual

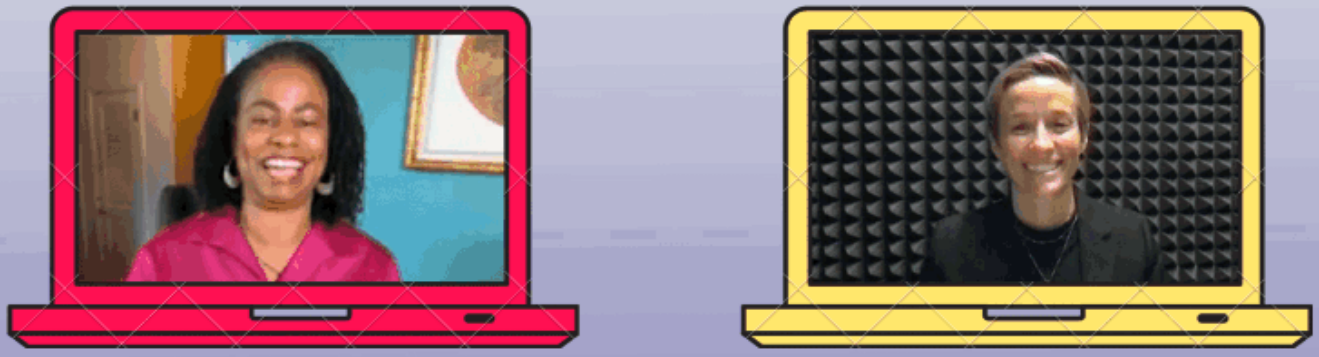
GRACE HOPPER CELEBRATION

Building competence, confidence, and community at vGHC

2020

Emily O'Connell '22
Computer Science and French

Following the general trend of 2020, Grace Hopper 2020 was ~unprecedented.~ Despite the fact that I spent the week at my desk instead of in Orlando, Grace Hopper taught me lessons that I'll keep with me throughout my career. During the conference, I attended a variety of sessions that explored many different technical aspects of computing, various careers in the tech field, and the intersection of gender and technology. Outside of the sessions where I was able to improve my technical and professional knowledge, my biggest takeaway was a lesson in perseverance and flexibility. A couple days before the conference, GHC announced that the career fair would not be taking place as expected.



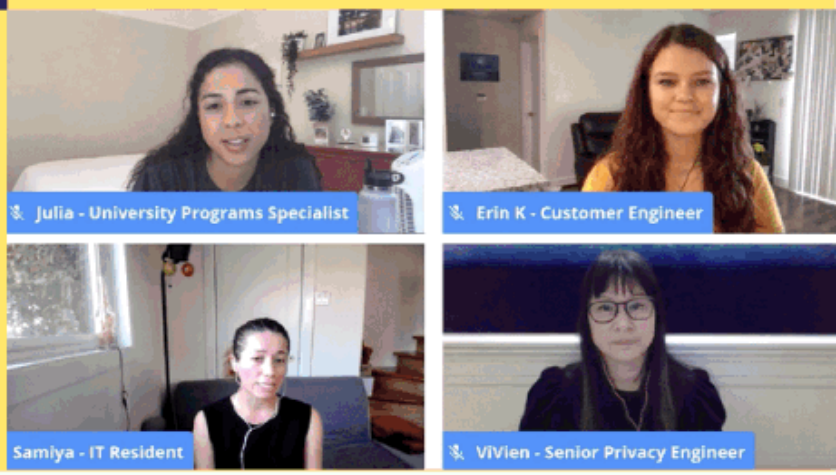
Anita B.org CEO Brenda Darden Wilkerson interviewing soccer star Megan Rapinoe

After taking time to process this disappointing change, the Grace Hopper community mobilized. Attendees organized and resources, from places to get free swag, Zoom meetings for employer panels, and links to apply for jobs and shared them on the Facebook page to reach as many people as possible. Our open-source career fair opened my eyes to a wonderful and passionate community of women in Computer Science.

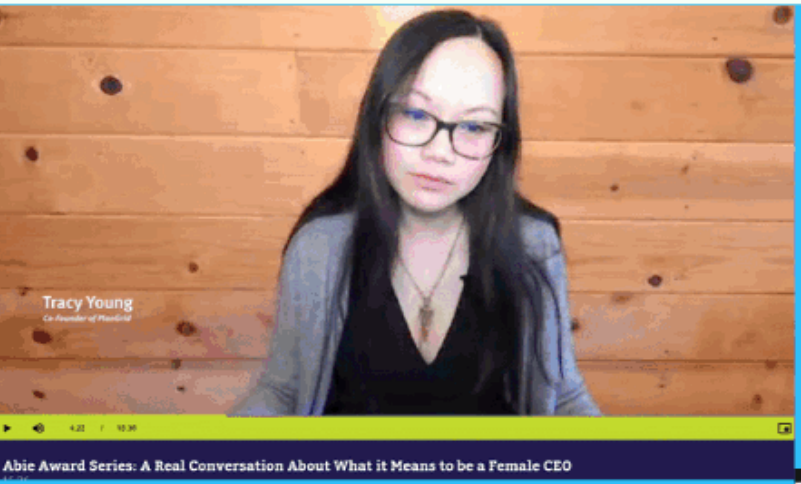
Favorite Sessions

One of my favorite sessions was about multilingual Natural Language Processing which explored both elements of language and human-computer interaction, which was the perfect combination of my two majors!

I also attended a panel hosted by Google about tech related roles that aren't necessarily software engineering, which opened my eyes to so many new possibilities for careers.



My Advice



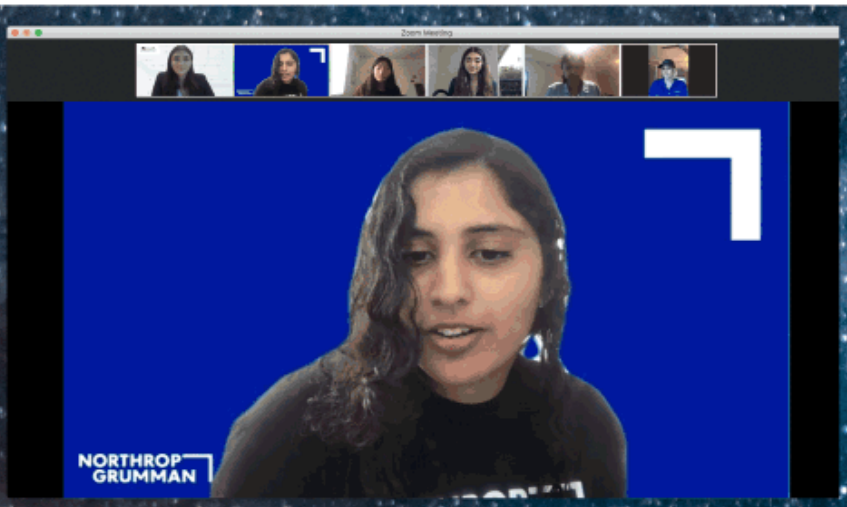
Take advantage of all the different types of sessions: technical sessions, networking events, workshops, and panels to maximize the GHC experience and learn from a diverse group of women.

Don't be worried if you feel overwhelmed! Especially with the added confusion of the first ever online conference, there were times when I just needed to take a step back. Recruiters and fellow attendees were adapting just like I was and everyone was very flexible and welcoming.

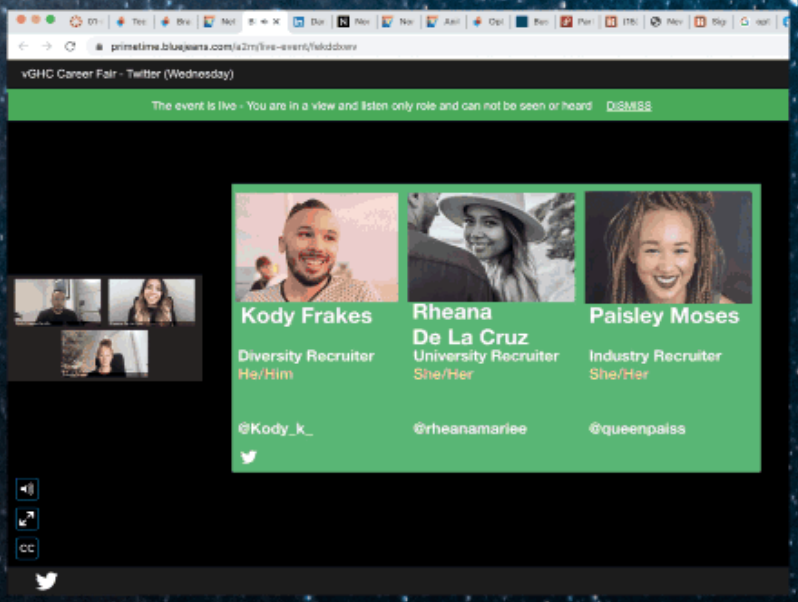
GRACE HOPPER CELBRATION: VIRTUAL EDITION

By Danielle Walder

The vGHC had many ups and downs. Just as everything else in the world right now, we are all trying to figure out how to get by. This was an experience unlike any I have had before, but I can proudly say I took away a lot and believe that being able to roll with the punches made the celebration that much better I had the honor of attending virtual networking events, where I got to listen and learn about inspiring women in the workforce and how I could be fit at their company. Just as it would be in person, every "booth" had their own way of conducting discussions Two companies that really stood out to me were Northrop Grumman and Nordstrom.



Northrop Grumman had a set up that made the conversion very relaxed and informational. We got to interact with other vGHC atendees, along with the represenatives from the company.



What stood out to me was the way Nordstrom explained how a company reacts to social issues has a big reflection on the worklife and company itself. Nordstroms took many actions towards inclusivity and showing their support during the Black Lives Matter movement and the outbreak of COVID-19.

#vGHC

Rena Repenning '22
Computer Science & Economics

Beginning in July, I applied to 21 software engineering positions! Each position required a different set of interviews, technical assesements, and behavioral questions. I learned to keep an open mind when applying to jobs; my favorite interviews surprised me.

Favorite Sessions

-- Elections: The Intersection of Policy, Access to the Ballot, and Technology
-- To Succeed Faster, Get Comfortable With Risk
-- IoT + Blockchain: Why Does it Matter to You?
-- Megan Rapinoe Keynote

Advice

Before Grace Hopper, make sure to prioritize which sessions you want to attend. I signed up for 15 at the beginning, and soon realized there was no was I could attend all! My favorite part of the virtual setup was the on-demand recordings. I spent the last day binge watching sessions from my bed :)

Disney swag!

Perfecting my zoom set up

Nervous smile!
(Sweatpants not pictured)

During Virtual Grace Hopper I got the chance to interview with companies at which I've always dreamed of working! Interviews on Zoom were stressful, but now I am a pro at explaining my skills and talents. Through the group slack, GHC social media pages, and networking events I connected with so many like-minded women. I enjoyed reading about other attendee's experiences and tips on the vGHC Facebook page, and getting recommendations and making friends on our Newcomb group's Slack channel.

KELLY ROMER - COMPUTER SCIENCE & MATHEMATICS 2022

#VGHC

Reflection

My favorite part of the Grace Hopper Celebration was the opportunity to meet so many brilliant and talented people in the technology sector. Even though the conference was held virtually this year, there were plenty of networking opportunities to have conversations with representatives of many companies.

My go-to virtual interview outfit

Favorite Sessions

Data Ethics & Privacy: The Pivotal Issues of the Next Decade

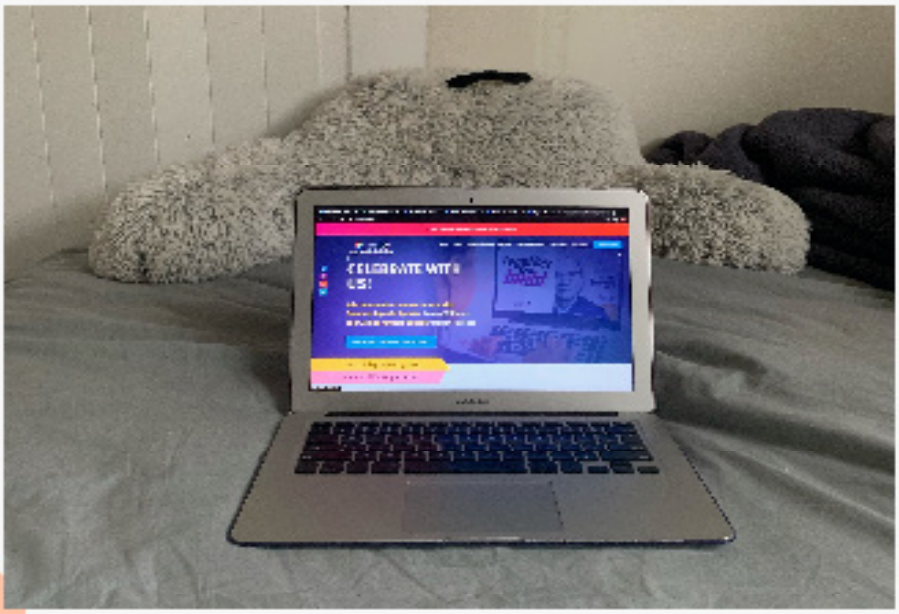
How to Program a Quantum Computer

Code & Deploy Your Technical Portfolio

Keynote: Ellen Pao

Favorite Moments

I gained so many valuable networking and interviewing skills through participating in Grace Hopper. I am now able to articulate my technological experiences in a clear and fluent manner and go into interviews feeling excited rather than nervous. I also learned a lot about prospective technology sectors and gained some insight into what I want out of my career as a computer scientist.



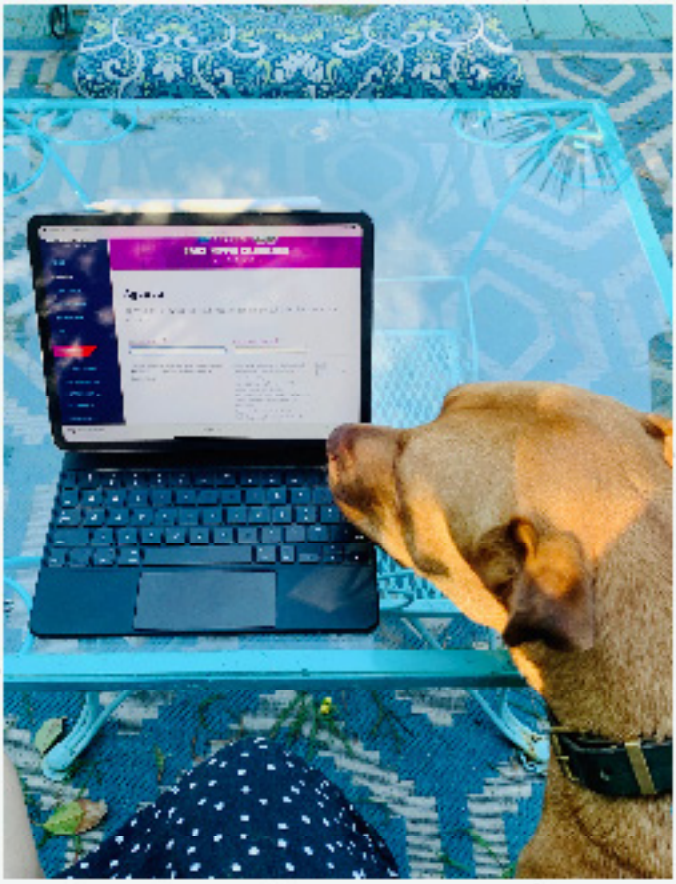
My favorite spot to attend vGHC sessions - my bed!

Advice

During Grace Hopper, as well as the weeks leading up to it, my email kept getting flooded with information about networking sessions and interviews with various companies. I bit off more than I could chew and applied to just about every event or job application that I received. I would recommend only applying to jobs that appeal to you for a specific reason, rather than every opportunity that comes your way.

let's build

Ashley Chen, Class of 2021
Digital Design + Computer Science



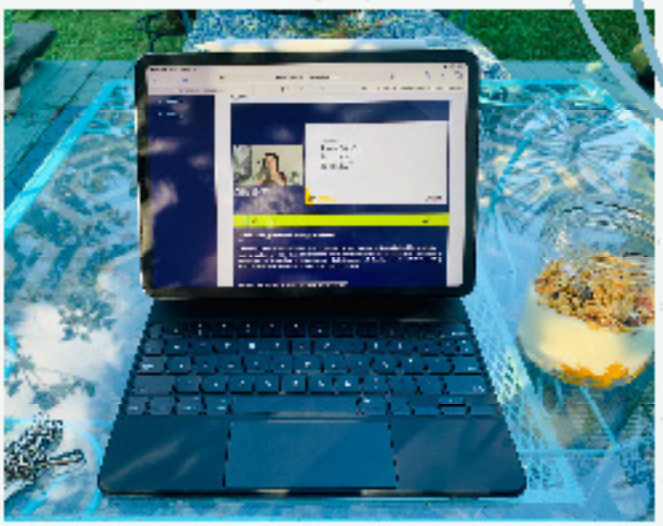
the #vGHC experience

As a first-timer at the Grace Hopper Celebration, I didn't really know what to expect. However, after a week of fruitful job-searching, intensive networking, and non-stop enrichment from the speaker sessions, I have grown so much both as a pre-professional woman in tech. I didn't believe I was prepared for a developer position, but now I have interviews lined up for me next week!

The virtual format wasn't what we were all expecting, but the pacing was much slower, and the on-demand videos allowed me to revisit the brilliant ideas the speakers had to present to us.

session highlights

- **You're Asking Users the Wrong Questions!** — ways to improve user research and interviews.
- **Inhale Courage, Exhale Fear** — the bravery in believing in your truth, power, and authenticity.



for the next steps

If I could tell the past me or any future GHC attendees one thing, it would be to believe in yourself a little bit more than you normally would. I have definitely found myself hesitating occasionally before the unknown, but when I didn't, the results made the leap of faith so worth it.

Quoting a recruiter I met during job hunting, "There's no such thing as the perfect candidate! So don't let imposter syndrome hold you back." This conference is all about meeting new opportunities and people that can move your along in your tech journey, so seize them when you can!

RYAN GOSDIN - CHEMICAL ENGINEERING CLASS OF 2022

VIRTUAL GRACE HOPPER CELEBRATION REFLECTIONS

TOGETHER WE BUILD

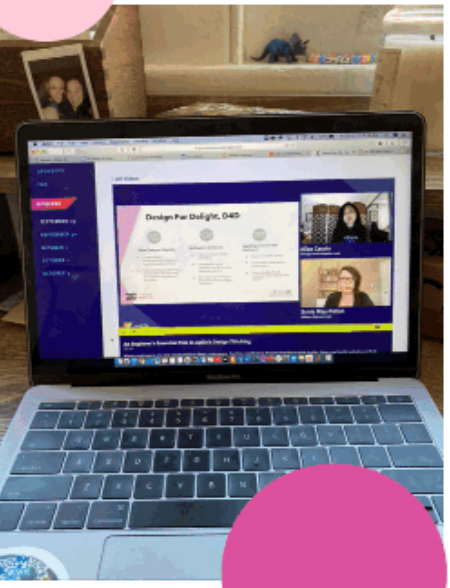
My Experience

This year, the Grace Hopper Celebration was held virtually, so I was able to attend right from my home! Through live streams I was able to attend 2 technical seminars and both the opening keynote by Brenda Darden Wilkerson, the CEO of Anita B. , as well as the closing keynote by my personal hero, Megan Rapinoe! My set up was a little bit unique in that I did not have access directly to the meetings, so I was able to attend them with my cat, who also loved the programs! This was my first opportunity to speak with actual software developers about what kinds of technologies I can use in my flied that they produce.

An Engineers Essential tool in Agile is Design Thinking by Aliza Carpio & Sonia May-Patlan

D4D (Design for Delight) Three principles:
1. Deep customer empathy- connect with customers
2. Go broad to go narrow- don't focus in on one idea too early
3. Rapid experiments with customers- testing solutions quickly.

This seminar taught me about software development stages, from planning to design to maintenance, and showed me how to develop software programs over time rather than one time projects. Aliza and Sonia did a great job explaining this customer oriented way of thinking and I would encourage all software developers to follow the three guiding principles to find success for themselves and their clients!



Re-Engineering Inside the Lines: How to Innovate Within a Legacy Stack by Ines Sheppard- VP Goldman Sachs

Re-host - hardware improvements/cloud solutions/new or better applications
Refactor - upgrade software versions/consolidating code/focus on least performant components and their functionality
Rearchitect - break up monolithic applications into smaller micro services which can be easier to manage with separate functionalities/use API's to replace specific functions/use messaging busses to decouple components and provide more flexibility
Replace - replace individual or specialized components like datastore or messaging components

Technical debt and legacy stacks/technology that already exists are often written over and have to support two tech programs at once rather than all together. This seminar taught me how software development isn't always starting from scratch. The above summarizes the techniques I learned to use while approaching the betterment of older/legacy stacks of software. These approaches while used successively will always allow for growth of a legacy stack rather than having to build completely new stcaks that are not integrated with past programs!

My Advice

Next year, hopefully this celebration can be in person and all the women at this conference can meet and network in person! I recommend dressing your best everyday and taking every opportunity to network that you can find. You can never have too large of a professional network to support you as you enter the workforce after graduation!

OCTOBER 2020

ANITA B.ORG 20th
GRACE HOPPER CELEBRATION
VIRTUAL

VIRTUAL GHC

Samantha Rothman

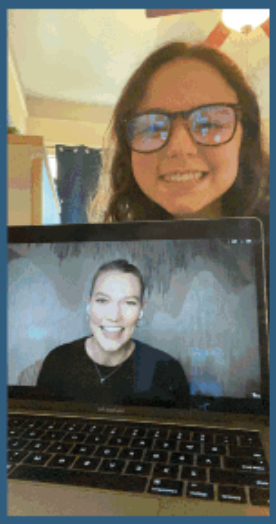
Senior Math and Computer Science Major

My Experience

As a celebration for the brightest minds in tech, it's no surprise that the Grace Hopper Celebration was able to use technology to inform, encourage, and inspire women. I was skeptical of how the virtual platform would affect my experience as a first time attendee, but it did not disappoint. I could feel the excitement from virtual swag like Snapchat filters and from everyone there who wanted to help women in any way they could.

Sessions

I was not sure how Megan Rapinoe, a soccer player, would fit into a tech conference. However, her speech, my favorite of the conference, really drove home the importance of GHC for me. It's not about women in tech, but rather about all women supporting women and receiving the equal treatment that they deserve in the workplace, whether that is the soccer field or the tech field.



Advice For Future Attendees

Prepare early, especially if you are looking for an internship or job. Have your resumé ready before the conference and start studying for interviews. Also apply early, so that you can start the interview process before the conference. Preparing early helped me balance networking events with sessions and helped me feel like I made the most out of the conference.

GRACE HOPPER CELEBRATION

Created by Lana Biren '21
Majoring in Computer Science & Political Economy

MY EXPERIENCE

While this year the conference was held virtually, there were so many opportunities to be inspired and learn from so many smart and hard-working women in technology! There were countless captivating sessions to choose from along with endless networking sessions! I really enjoyed connecting and meeting other women technologists! I also loved listening to the amazing women talk about how they're making the world a better place and their experiences in the tech field!

FAVORITE SESSIONS

I enjoyed the Imposter Syndrome workshop and the Closing Keynote with Megan Rapinoe the most! The workshop gave so many helpful tips on mindfulness and how women can feel more confident in the workplace. Megan Rapinoe shared many inspiring insights on the importance of equal pay for women and how the economy is better and stronger when women are strong leaders and paid equally!

MY ADVICE

together we build

Make sure you prep before the conference. Know which sessions you want to attend and which companies you're most interested in learning more about. Also, know what questions you want to ask recuiters and how to talk about your previous experiences. Remember to take care of yourself and enjoy it!

ANITA B.ORG

GRACE HOPPER CELEBRATION

Curated by Riley Juenemann

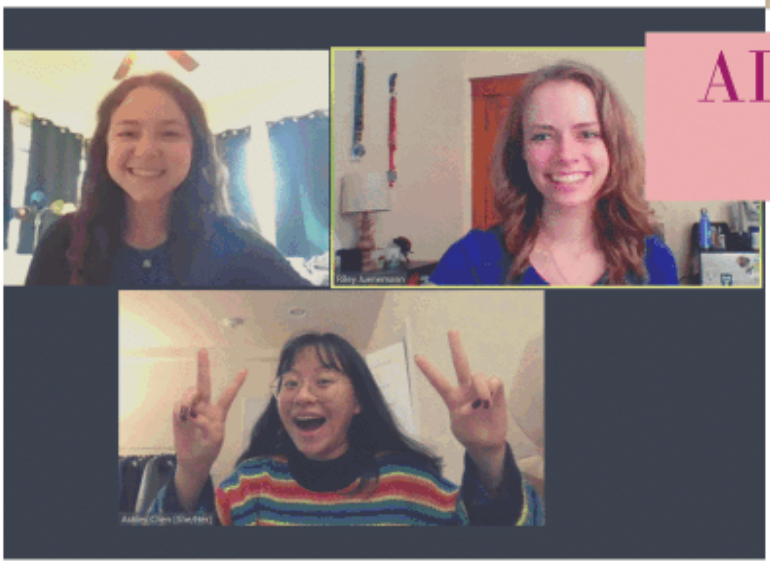
Senior @ Tulane majoring in Math and Computer Science

MY EXPERIENCE

This was my second time attending GHC and it did not disappoint! Even virtually, the week was jam packed with engaging sessions, a plethora of networking opportunities, and empowering celebration of amazing women technologists. Together, we were able to traverse geographic separation to build an inclusive space where all can learn.

FAVORITE SESSIONS

My favorite session at GHC was Transforming Healthcare and Empowering Women With FemTech. This session was empowering and described a new innovation in the health and wellness industry. Another of my favorite sessions was the Speed Mentoring - I was able to connect with women in industry roles that I am interested in and ask them for advice!



ADVICE FOR FUTURE ATTENDEES

Know what your priorities are going into the conference and plan out your days before they happen! It is better to have a plan and change the plan than not have a plan and miss something you really wanted to attend. Also, remember that GHC is a marathon, not a sprint - take care of yourself mentally and physically so that you don't burn out.

How to Conduct Your Own Digital Media Research Project

From start to finish

THINK ABOUT...

What is being said about your topic right now!

What is associated with your topic in academic literature.

Start Broad!

Identify an area or potential topic you are interested in. Write down some guiding questions, and start doing some background research!

Next Steps:

1. **Narrow your focus.** When doing your background research, what sparked your interest? Where there differences between the societal and academic discourse surrounding your topic? What aspect of your topic would you like to dive deeper into?

2. **Establish your intended outcome**. What will your final project look like? What message do you want to convey, and how do you want to convey it? Do you want to make a poster, a paper, a documentary, or something totally different?

3. **Create a research plan.** Make a list of sources to read. Set up a schedule for your research to keep you on track. Establish essential questions you hope to answer with your research.

Finalizing your work!

1. **Read through your work, edit, and repeat!**

2. **Ask for a second opinion.** Ask a friend or mentor to read your work, or present it to them. See if there is anything that needs clarification or any gaps in your analysis. Sometimes a second pair of eyes can help you catch something you otherwise would have missed!

3. **Make your final edits & reflect on how far you have come!**

Let's Test It Out!

See how I am planning out my research project!

Broad Topic: The Femtech Industry.

Femtech - technology geared towards improving women's lives

Initial Guiding Questions

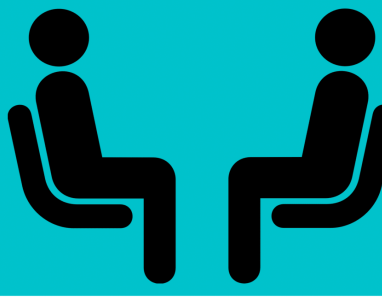
1. Whom are femtech apps marketed towards?
2. Who is making/designing femtech apps?
3. What impacts have femtech apps had on women's health?
4. What demographic uses femtech apps the most?
5. For what purpose were these apps created?
6. What issues have arisen due to the rise of femtech apps?
7. What are some of the barriers women face in the healthcare system? How are these apps helping if at all?

Focusing in on a more specific part of the industry:

The importance of femtech apps on the community level to ameliorate Black maternal health disparities.

Establishing my intended outcomes:

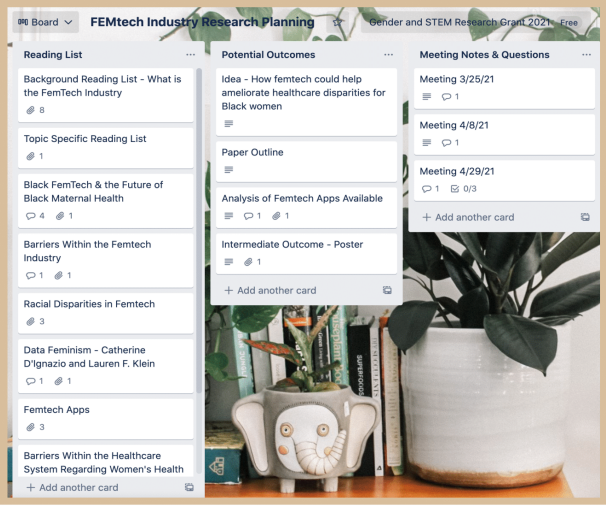
- A written interview review based on an interview with a Black maternal health app founder



Making an interview plan:

- Do some more background reading specifically related to your topic
- Identify & reach out to a Femtech app developer to interview (or multiple)
- Formulate questions

Organizing my research - Trello



More about the project

While this project is currently still in the works, I have found that the hardest part of conducting a research project is finding a place to start. My hope with this infographic is to help others struggling to get started on a research project with all the tips and tricks I have learned so far. My next steps will include conducting an interview and writing a review, stay tuned!

By: Carlin Stewart '24 Gender and Tech Grantee

STUDENT GROUPS

Women in Technology &
Society of Women Engineers

Newcomb Institute offers a variety of clubs for students with an interest in STEM. These clubs supplement students' learning in the classroom and provide an avenue for students to explore different interests outside of class. Students also have the opportunity to meet other students with a shared interest in STEM fields.

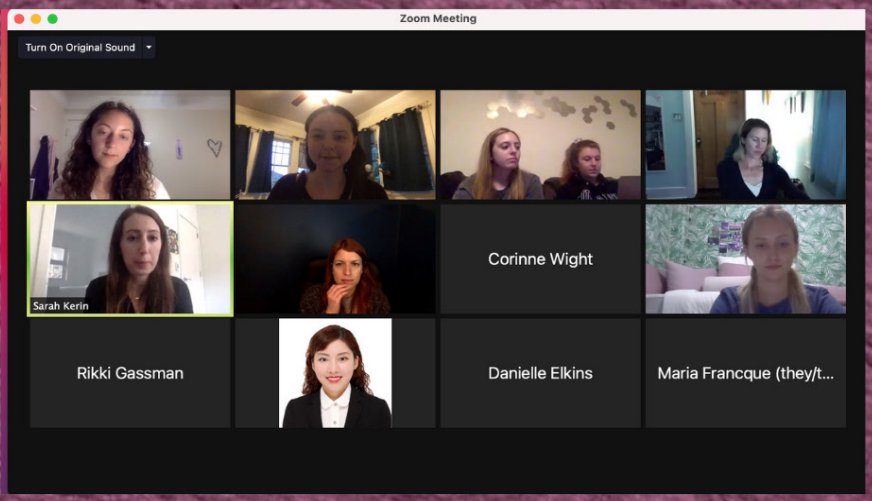
WOMEN IN TECHNOLOGY

FALL 2020-SPRING 2021

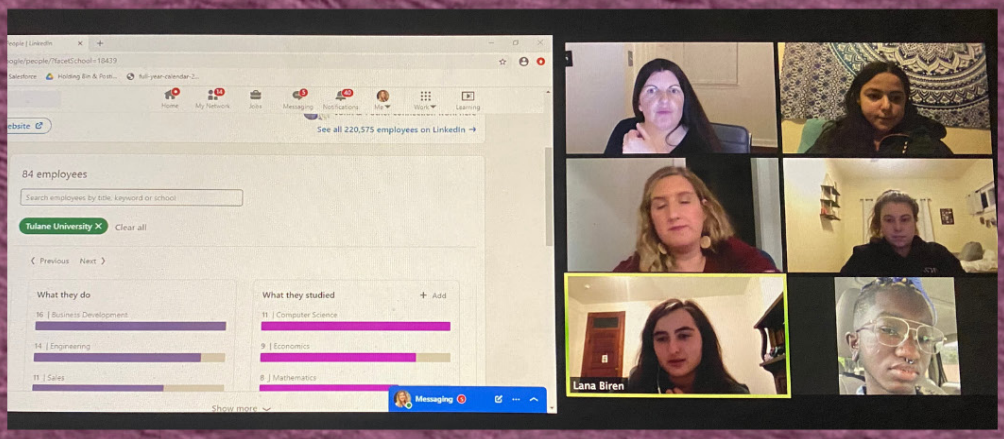
Tulane Women in Technology (WIT) is a dynamic resource for the campus community, acting as a nexus of learning, teaching, collaboration, and support for all students seeking a deeper comprehension and proficiency in Applications of digital technology.

This year we were able to keep our club running, taking advantage of technology to learn more about being a woman in technology !

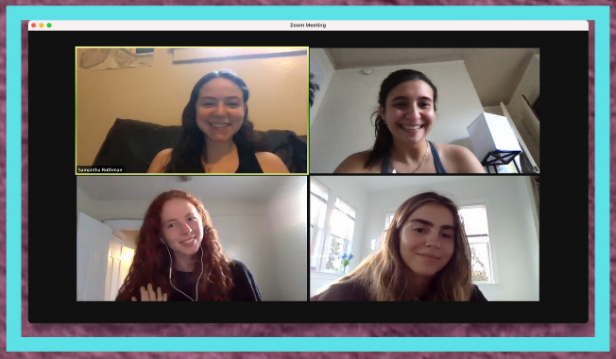
ZOOM EVENTS



WOMEN IN BUSSINESS X WOMEN IN TECHNOLOGY PANEL



WIT PRESENTS: GIT/GITHUB WORKSHOP



WIT EXEC BOARD MEETING (where we plan these events!)

SOCIETY OF WOMEN ENGINEERS

by women. for women.

who we are:

The Society of Women Engineers is a national organization founded on principles of **advancing** and **empowering** women in engineering and other STEM fields.

Tulane's collegiate SWE section is a community of undergraduate women and men united in supporting women in engineering disciplines on campus and beyond.

13%
of engineers in the workforce are women

>32%
of women leave STEM programs in college

10%
less pay earned by female engineers than male

45.5%
of engineering degrees at Tulane are awarded to women

what we do:

community

build a community among undergraduate women in engineering programs

outreach

participate in outreach at Tulane and throughout New Orleans

provide professional development opportunities through SWE's national conference and workshops

professional development

@tulaneswe

facebook.com/tulaneswe/

Tech in Action

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