

THE NEW ATRAVESADOS: TECH WORKERS IN THE DIGITAL BORDERLANDS

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INTRODUCTION

During his presidential campaign, Donald Trump ran on a platform that blamed immigrants for taking jobs from American citizens. In his first month in office, the President pursued actions to limit the entry of aliens to study and work in the United States. Fulfilling his campaign promises, he began by obstructing the H-1B visa program.

On April 18, 2017, President Trump released an executive order instructing governmental agencies to “suggest reforms” to create a system that awards H-1B visas to the “most-skilled or highest paid” applicants.¹ The executive order did not directly halt the program or impose new regulations on the evaluation of H-1B applications. Nevertheless, its threat echoed in the title: “Buy American, Hire American.”² The danger of a presidential directive to hire American lies in the intent to encourage a rhetoric and practice of nativism and xenophobia in the marketplace, sanctioned by government.

However, reliance on foreign labor is a foundational custom in the United States. The country initially built its infrastructure and wealth thanks to labor stolen from slaves brought here by force from other lands.³ After slavery was outlawed, the United States began relying even more on labor provided by new groups of foreigners – migrants and immigrants.⁴ Gloria Anzaldúa reminded us that foreign labor remained an important component of our nation’s economy.⁵ Today, American employers continue to pay lower wages, if any, for labor provided by newer immigrants.

A new element that makes reliance on foreign labor even more complex is the fact that the marketplace is now digital and not bound by physical borders. The age of digital technology and instant global communications encourages companies to seek customers and labor pools outside of their geographic boundaries. Because digital technology development has emerged as a new way to attain global market dominance and the United States is one of the countries leading the technology sector, foreign tech students and workers are attracted to its thriving tech culture. As a result, American tech companies rely on foreigners as a valuable labor source.

¹Exec. Order No. 10582, 20 C.F.R. § 654.12 (April 18, 2017). Available at <https://www.whitehouse.gov/the-press-office/2017/04/18/presidential-executive-order-buy-american-and-hire-american>

² *Id.*

³ Howard Temperley, *The Ideology of Antislavery* in *THE ABOLITION OF THE ATLANTIC SLAVE TRADE: ORIGINS AND EFFECTS IN EUROPE, AFRICA AND THE AMERICAS*, 26-29 (David Eltis and James Walvin eds., 1981).

⁴ I make a distinction between the words migrant and immigrant. While these words are used interchangeably, I see an important difference between the two. Not every foreigner who migrates to another country intends to or ends up becoming an immigrant. The main distinction between these two words is temporal. An immigrant remains in a country for many years or the rest of their lives. Immigrants are seen as part of a country or actively choose to incorporate into the country’s culture and society. On the other hand, a migrant’s stay in a country is temporary. A migrant might live in a country for a few years, and might even have the intent to remain long-term, but ends up having a temporary stay. Migrants can also visit or live in a country from time to time, several times, but not permanently. This distinction is important for understanding the global marketplace and the borderlands. For example, many *braceros* and farmworkers began as temporary migrants and ended up becoming permanent immigrants in the United States.

⁵ See generally, GLORIA ANZALDÚA, *BORDERLANDS/LA FRONTERA: THE NEW MESTIZA* 31-35 (2nd ed. 1987).

This paper presents emerging analysis of technology work and temporary tech workers based on Gloria Anzaldúa's *Borderlands/La Frontera*. Here, the technology market is a digital borderland and tech students are "los atravesados," temporary foreign workers.⁶ Here, digital technology exposes borders as fictions; as "unnatural boundaries" set up "to distinguish us from them."⁷ The paper peeks into the challenges that tech students as budding tech workers face in a marketplace that despite its borderless digital landscape retains the xenophobic attitudes of the analog market.

To begin learning about the challenge's temporary tech workers face, I set out to ask international students pursuing a telecommunications career how they navigate the contradictions of a political environment that is hostile to foreigners and a market environment that desires their labor. My thesis proposed that the combination of political hostility towards foreigners, the capitalist principle to maximize profits by lowering labor costs, and the hidden nature of technology work, push temporary technology workers towards forms of work that are unreported.

The small data sample I analyze in this paper was collected for a research project for a law school class. The project was intended to expose law students to empirical research, not to facilitate robust data collection. Because this paper emerged from a class project, I encourage readers to see the ideas expressed here as an initial exploration of the links between technology, legal theories of citizenship, immigration law, and Anzaldúan theory. My goal is to spark academic interest in the role migrants play in digital technology development and in the conceptualization of the technology market as another space that exposes political borders as fictions.

Background

Historical Reliance on Foreign Labor & Guest Worker Programs

The United States has a long history of relying on foreign labor to build its infrastructure, workforce, and industry.⁸ For example, Chinese immigrants helped build the Transcontinental Railroad in the mid-1800s and contributed to the mining, farming, and service industries.⁹ The Bracero Program brought millions of guest agricultural workers to the United States from 1942-1964.¹⁰ Most recently, workers from Central America and India were recruited to clean up and rebuild the Gulf Coast after hurricanes Katrina and Rita.¹¹ The United States benefits from foreign labor not only because it fulfills its demand for skilled workers, but because businesses get to pay less in wages and benefits (such as healthcare and Social Security contributions). If workers are not American citizens, they do not have the same avenues for redress from worksite abuse that citizens enjoy, and businesses are *de facto* exempt from full compliance with American labor laws.

⁶ *Id.* at 25.

⁷ *Id.*

⁸ Gerald P. López, *Don't We Like Them Illegal?*, 45 U.C. DAVIS 1711, 1742-44 (2012).

⁹ *Id.* at 1745.

¹⁰ *Id.* at 1766; see also BRACERO HISTORY ARCHIVE, <http://braceroarchive.org/> (last visited on May 11, 2017).

¹¹ Ed Gordon, *Hiring Illegal Immigrants for Katrina Reconstruction*, NPR (June 2, 2006), <http://www.npr.org/templates/story/story.php?storyId=5446965>; Alice Speri, *Indian Workers Awarded \$14M in Post Hurricane Katrina Trafficking Case*, VICE NEWS (Feb. 19, 2015), <https://news.vice.com/article/indian-workers-awarded-14m-in-post-hurricane-katrina-trafficking-case>.

U.S. Citizenship and Immigration Services currently hosts 22 guest worker programs designed to allow temporary nonimmigrants to work in the United States.¹² The programs address the need for employees in a variety of specialized fields. For example some programs are for athletes, doctors, nurses, or other people with “extraordinary ability.”¹³ The H-1B Visa and the Optional Practical Training (“OPT”) programs are available to international students in higher education, and are the main programs that allow international technology students to work in the United States.

The H-1B program “allows companies in the United States to temporarily employ foreign workers in occupations that require the theoretical and practical application of a body of highly specialized knowledge and a bachelor’s degree or higher in the specific specialty, or its equivalent.”¹⁴ While H-1B specialty occupations include science, engineering and information technology, other occupations are very specific such as fashion models,¹⁵ Free Trade Agreements workers from Chile and Singapore,¹⁶ and occupations related to department of defense.¹⁷

The OPT Program is designed to allow international students who have been enrolled for nine months in an undergraduate or graduate program to seek employment opportunities within their field.¹⁸ The rationale is that employment offers them experience that compliments their education. Students eligible for OPT are allowed to work for a year from the grant of the permit, or up to three years if their studies are in the fields of science, technology, engineering, or math.¹⁹

H-1B and OPT are different programs, and a student or an employer does not have to choose one over the other. However, students finishing their studies, typically apply to OPT first. The one-year or three-year OPT period allows them to obtain internships (which could be unpaid) or temporary work to gain experience and subsequently obtain full-time employment. OPT is available to students regardless of whether an employer hires them full-time or not. While an H-1B visa is attached to a specific employer who processes the application on behalf of the employee, OPT is attached to the student and allows the student to work for any employer she chooses. In addition, as long as all the elements of an OPT application are met, the student will be granted the permit to work. However, the H-1B visa has become an uncertain process. Only 85,000 H-1Bs are awarded each year, and the applicant pool exceeds the number of visas that are available.²⁰ Thus, while an employer might submit an application on behalf of a desired employee, that employee might not obtain a visa.²¹

¹² *Temporary (Nonimmigrant) Workers*, U.S. CITIZENSHIP AND IMMIGR. SERVICES, <https://www.uscis.gov/working-united-states/temporary-nonimmigrant-workers> (last visited Jan. 2, 2019).

¹³ *Id.*

¹⁴ *H-1B Fiscal Year (FY) 2019 Cap Season*, U.S. CITIZENSHIP AND IMMIGR. SERVICES, <https://www.uscis.gov/working-united-states/temporary-workers/h-1b-specialty-occupations-and-fashion-models/h-1b-fiscal-year-fy-2019-cap-season> (last visited Jan. 2, 2019).

¹⁵ *Id.* H-1B3 Program.

¹⁶ *Id.* H-1B1 Program.

¹⁷ *Id.* H-1B2 Program.

¹⁸ 8 C.F.R. § 214.2(f)(10).

¹⁹ *Id.*

²⁰ Miriam Jordan, *Visa Applications Pour In by Truckload Before Door Slams Shut*, N.Y. TIMES (Apr. 3, 2017), <https://www.nytimes.com/2017/04/03/us/tech-visa-applications-h1b.html> (article chronicling the volume of applications for H-1B visas. In 2016, the applicant pool was capped at 230,000).

²¹ Trisha Thadani, *Big tech firms pay H-1B workers more than prevailing wage*, SAN FRANCISCO CHRON. (Apr. 10, 2017), <http://www.sfchronicle.com/business/article/Big-tech-firms-pay-H-1B-workers-more-than->

“Tech Work” & the “Tech Worker”

The development of digital technologies and deployment of Internet service around the world have catapulted a global demand for experienced workers in Information Technology. Every single industry and aspect of human life has been altered by digital technology, from commerce to education to entertainment to health.

Jobs and careers in the Information Technology field evolve at the same fast pace that technology advances. Work in this sector encompasses a wide variety of jobs and career paths that may require specialized training or education.²² The constant and rapid change of information technology makes it difficult to define exactly what “technology work” means. In this paper, I loosely define “technology work” as labor that relies on specialized knowledge of computing technology *and* labor that helps this type of technology function. However, I exclude work that relies on computing technology but is not about computing technology. For example, a tax lawyer who telecommutes from home twice a week.

I purposely define technology work broadly in order to include the various types of work that technology workers perform. For example, I include individuals that work, by the hour, evaluating search engine results and the accuracy of map routes under the umbrella of “tech worker.” Moreover, I argue that we must recognize these individuals as tech workers in order to have a full understanding of the labor ecosystem propelling the field of information technology, and to prevent that the erasure of their labor results in worker exploitation.

Conversations with professionals in different areas of technology work helped me understand the various jobs and paths that tech workers can pursue.²³ Based on these conversations, I group technology workers in three categories: (1) Knowledge Workers, (2) Creators, and (3) Support Workers. Although the two top categories often intersect, the main distinction between these categories is the level of authority that a worker is allowed over the end-product or project. Knowledge workers have the most authority over the end-product while support workers have no say at all.

| Information Technology | |
|--|------------------------------------|
| Knowledge Workers | Creators |
| Software Development Network Engineer | Programmers Coders Debugging |

[11061733.php?utm_source=dlvr.it&utm_medium=twitter](https://www.tdl.org/rbj/article/11061733.php?utm_source=dlvr.it&utm_medium=twitter) (this article chronicles the story of an employer and employee who submitted an H-1B visa application for an Argentinian employee, but could not keep her on staff because she did not win a visa).

²² For a few examples, see Chris Levin, *8 Kinds of IT Professionals: Which One Does Your Company Need?*, LINKEDIN (Aug. 21, 2015), <https://www.linkedin.com/pulse/8-kinds-professionals-which-one-does-your-company-chris>.

²³ Interview with the director of an IT department at a university (Apr. 24, 2017); interview with a professor of Intellectual Property law and former programmer (Apr. 27, 2017), and interview with a college graduate working on hourly-basis contracts for two global tech companies (Apr. 2017). The author offered anonymity to interviewees in order to encourage candor in their conversation. The interviews were not recorded, and notes are on file with the author.

| | |
|---|--|
| Network Administrator | |
| Support Workers | |
| Remote Workers Mapping Specialists Data Gatherers | |

Knowledge Workers and Creators tend to be at the top of the field in recognition, authority over end-product, and pay. They have specialized knowledge and training – often an advanced degree – get to direct the development of a project, interact with clients, and are recognized as the creative force behind the evolution of information technology. Similar to knowledge workers, Creators have specialized knowledge and training that allows them to create the core software and computing components of a project. An important caveat is that these two types of worker overlap. Often a Creator is the Software Developer and gets to direct the project from beginning to end. Other times, the positions are separate, and the Knowledge Worker fulfills the role of a manager. According to the tech workers that I interviewed, it is really hard to find a good programmer; thus, a company would likely choose to lose its Knowledge Worker than its Creator.

The division of labor between the Knowledge Worker and the Creator will depend on the arrangement set up by the company. Both can have the authority to oversee the creation, test, and launch of a new application, and both might have the skills required to build the end-product. However; Creators, by definition, are the workers that always know how to build the end-product because their work is to create the computing software.

Support workers are at the bottom of the field in terms of recognition, authority over end-product, and pay. Support work is often short-term contract work and does not typically offer full-time employment. A tech support worker is hired by the hour, at minimum wage, and completes tedious data-related tasks. For example, evaluating the quality of search results when a user looks up a specific term on a web-browser, or monitoring the accuracy of driving directions for a traffic application. While support work requires some level of IT knowledge, it does not require advanced degrees or specialized tech training. One of the tech workers interviewed said that consumers do not realize it takes “invisible armies” of hourly-paid tech workers to run a single application like Facebook. Some in the IT industry call this type of labor “grunt work,”²⁴ and job-search platforms present this type of work as a way for individuals to try out the IT industry.²⁵

The Demand for Tech Workers in the United States

Tech workers are the modern iteration of foreign temporary workers in industrialized countries. The rapid advancement of digital technology has intensified global demand for experienced workers in this field. Once considered a field for antisocial geeks, tech is now as a field of rockstars²⁶ and brilliant risk-takers that drop out of college to become millionaires.

²⁴ Shane Schick, *Expose routine support for the IT grunt work it is*, IT CANADA (Nov. 29, 2017), <http://www.itworldcanada.com/blog/expose-routine-support-for-the-it-grunt-work-it-is/59103>.

²⁵ Allan Hoffman, *Break into IT with Temporary Work*, MONSTER <https://www.monster.com/career-advice/article/break-into-it-with-temporary-work> (last visited May 11, 2017).

²⁶ *Intel Rockstar TV Commercial - Sponsors of Tomorrow*, YOUTUBE (June 1, 2011), <https://www.youtube.com/watch?v=VqSWWbYhyU0>.

Amongst Americans, there is an increasing desire for lucrative tech careers and a cult-like following of brands and corporate leaders in the field. Programs designed to encourage youth and Americans of all backgrounds to pursue education and careers in Science, Technology, Engineering, and Math (“STEM”) send a clear message about the desirability of tech work and tech workers.²⁷ For some, tech work is a necessary economic transition in a country that eroded its manufacturing plants and industries.²⁸

While there are endless articles and studies bemoaning the lack of racial diversity in the tech industry, these articles focus on the dearth of non-White American citizens.²⁹ In fact, one characteristic unique to the industry is the substantive presence of foreigners racialized as people of color in the United States.³⁰ Some accounts report that one-third of Silicon Valley, the mecca of the tech industry, is foreign-born.³¹ This figure is not surprising in an industry founded on the principle of global connectivity. The industry’s inherent global reach reflects a global workforce and leadership. In addition, tech work can be performed at distance. Tech workers do not have to be in a specific physical location to perform their work. As long as a tech worker has internet connection, she is at the office.

However; current anti-immigrant, nativist, political rhetoric hostile to foreigners coupled with the inherent mobility of IT work paint a bleak picture for the prospects of foreign, temporary tech workers in the United States. While this rhetoric is not unique to the tech field nor unique in the history of the nation’s treatment of foreign guest workers, I ask: How are international students as aspiring tech workers navigating a political climate hostile to foreigners?

I. Thesis

This paper conceptualizes the technology market as the digital iteration of the borderlands and international tech students as migrant workers. The paper peeks into the challenges that foreign tech workers face in the digital marketplace of the United States. To begin learning about the challenge’s foreign tech workers face, I asked international students enrolled in an interdisciplinary telecommunications graduate program how they navigate the contradictions of a political environment that is hostile to foreigners and a market environment that desires their labor.

My thesis proposed that the combination of political hostility towards foreigners, the capitalist principle to maximize profits by lowering labor costs, and the hidden nature of technology work, push temporary technology workers towards forms of work that are unreported.

II. Methods

²⁷ See, e.g., GIRLS WHO CODE, <https://girlswhocode.com/> (last visited Jan. 2, 2019); SELF-ESTEM!, <https://selfestem.org/> (last visited Jan. 2, 2019).

²⁸ Clive Thompson, *The Next Big Blue-Collar Job is Coding*, *WIRED* (Feb. 8, 2017), <https://www.wired.com/2017/02/programming-is-the-new-blue-collar-job/>.

²⁹ Bonnie Marcus, *The Lack of Diversity in Tech is a Cultural Issue*, *FORBES* (Aug. 12, 2015), <https://www.forbes.com/sites/bonniemarcus/2015/08/12/the-lack-of-diversity-in-tech-is-a-cultural-issue/#45e9c16279a2>; Vauhini Vara, *Why Doesn’t Silicon Valley Hire Black Coders?*, *BLOOMBERG BUSINESSWEEK* (Jan. 21, 2016), <https://www.bloomberg.com/features/2016-howard-university-coders/>.

³⁰ Rachel Massaro, *2016 Silicon Valley Index*, *JOINTVENTURE* <http://www.jointventure.org/images/stories/pdf/index2016.pdf> (last visited May 11, 2017).

³¹ *Id.*

My approach to learn about how tech workers navigate a political climate hostile to foreigners incorporated various strategies. I used both quantitative and qualitative methods involving international students enrolled in a telecommunications graduate program at an American university.

I conducted interviews with three tech workers in different areas of the field, organized a focus group with international students, and distributed an anonymous survey asking international students about their perceived employment prospects in the tech industry. Each data collection strategy catalyzed the next. I interviewed tech workers to gain clarity about concepts that I learned from the focus group, and I distributed the survey because very few participants signed up for the focus group.

Participant Group & Researcher's Position Within that Group

I recruited international students from the Interdisciplinary Telecom Program (“ITP”) at the University of Colorado in Boulder as the main participants for my project. ITP offers certificates and degrees in an interdisciplinary environment that combines “technology, policy, and business.”³² Students can choose a network engineering, network security, telecom policy and strategy, wireless networking, or “open option” track.³³

As a law student and United States citizen, I was an outsider to this group. However, as a telecommunications law student, I have taken classes and participated in cross-disciplinary academic events where I met students enrolled in ITP. In addition, my experience as an immigrant inspired my interest in learning about the experiences of international students and provided a point of connection with potential participants. I hoped the interactions I previously had with international ITP students and my background as an immigrant would encourage them to participate.

A. Participant Outreach

First, I invited students to participate via email. Administrators at the ITP department helped me reach potential participants by sharing a recruitment email with international students in the program.³⁴ I hoped to recruit at least 12 participants for two focus groups, six participants per group. Each focus group was scheduled to take three hours. However, the busy school and work schedule of ITP students makes it difficult to recruit them to participate in extra-curricular activities.

The sensitive topic of the focus group – career prospects of international students in a climate hostile to foreigners – presented a challenge to recruitment and candid participation. The subject of someone’s future is exciting to discuss when it looks promising, but my interest in the professional future of international students was precisely to learn about how they were navigating political hostility that makes their future uncertain. I knew the conversation I sought was personal, challenging, and implicated confronting short and long-term decisions and obstacles in their careers. I relied on the rapport I had developed with students and hoped some would be interested

³² *Interdisciplinary Telecom Program*, U. OF COLO. BOULDER, <http://www.colorado.edu/itp/> (last visited Jan. 2, 2019).

³³ *Id.*

³⁴ Recruitment email, focus group questions, and survey in file with author.

in a safe and trusting environment where they could share their experiences. To incentivize participation, I offered a home-cooked meal and anonymity. In the end, I was able to recruit four students to participate in the focus group; thus, I hosted only one in-person conversation.

The focus group consisted of two parts: a written survey and a guided conversation based on the questions in the survey. To maintain the anonymity of students and encourage frank dialogue, I did not audio-record the conversation. I relied on the answers the students provided in the written survey and took hand-written notes during our exchange to capture data accurately. After our conversation, participants confirmed that students would likely not take time to join a focus group, but suggested I create an online survey tool that students could answer at their own time, anonymously. Thus, I adapted the survey I used in the focus group and put it on an online platform.

Second, to compliment the insights I heard in the focus group, I distributed a survey to potential participants. I used the platform Survey Monkey to be able to control the anonymity of participants. Other platforms such as Google Forms rely on the email address of respondents and collect their IP address. Although the survey did not request information that would identify a respondent, it did request sensitive information and I wanted to ensure that a participant's identity could not be collected from meta data. Administrators at the ITP department again helped me reach potential participants by sharing the link to the anonymous survey with international students in the program. Unfortunately, only eight students took the survey and only two completed it fully. This resulted in a total of 12 responses from a focus group and the anonymous survey.

Although the outreach yielded little data, discussion from the focus group and surveys offered valuable insights for exploring the challenges international students and tech workers face in the hostile political climate fostered by the Trump administration.

Finally, to learn more about the vast world of Information Technology work and its workers, I interviewed three workers from different areas of the field. I interviewed the director of an Information Technology department at a university; a former programmer and professor of Technology and Intellectual Property Law; and a temporary worker for both Uber and Google. Each interviewee pursued a different education route and occupied a different sector of tech work, but all had the ability to work permanently in the United States. These interviews helped me learn about the employment prospects for foreign tech workers. Interviews lasted from 30 minutes to an hour, and I only took hand-written notes. I did not prepare specific questions to ask each interviewer but approached each conversation with general curiosity about their experience in the technology sector.

III. Findings

“Borders are set up to define the places that are safe and unsafe, to distinguish us from them.” –
Gloria Anzaldúa, *Borderlands/La Frontera*

While I was not able to collect the responses I had hoped, conversation from the focus group and data collected from the survey provided valuable insights. Overall, the small data sample showed that a trend encouraging temporary tech workers to pursue unreported work does not exist. Instead, a more complex reality emerged. Although international tech students face barriers stemming from their non-immigrant status, they also enjoy advantages that maintain employment prospects open even when the political climate is hostile to foreigners. These advantages are:

advanced degrees, social status and upward mobility in their home country, and specialized knowledge that will be valued in other countries.

Despite these advantages, the responsibilities that participants face in their home countries, such as loans borrowed to finance their American education, press students to stay as long as the OPT program allows them to work.

Tech Work is for Americans

When searching for jobs and during internships, participants received the message that certain tech work is for Americans only. A participant recounted an experience of being singled out at a high-security lab that requires military clearance. In order to work inside the lab, it was required that a U.S. citizen accompany her and a red light-bulb outside the lab door remained on. The red light indicated to others that a non-citizen was inside the lab.

Participants also said that some of the course tracks and internships that were offered at the program were only attainable by U.S. citizens because they required security clearance that international students would not be able to obtain.

A. Contract Work

“Upside: well, if you are totally unemployed then working on contract is better than not working. Downside: No job security, hence can not plan future while working on contracts.” – Focus group participant

International students often face pressure to meet the financial responsibilities and debt they acquired in their home country to pursue an American education. Thus, even if the desired H1-B visa is out of grasp, temporary contract work offers a way to try to recoup the money invested. During the focus group conversation, students expressed that contract work – temporary, hourly-paid, with no benefits – was not what they hoped to obtain by moving to the United States but might be the only option available to them.

The rules of the OPT program require students that stay to find a job in their field of study. OPT allows international students to take temporary internships and jobs, even if unpaid, while they look for a permanent position or a job that can lead to an H-1B visa. Students in STEM fields are allowed to intern or work for up to three years after completion of their program without having to find an employer that will sponsor their H-1B visa application. Thus, the students that participated in this project would be able to use their allotted OPT time to work in a temporary tech position.

An aura of wariness emerged when discussing the topic of contract work. Participants alluded to the ability of big tech companies to hire high-skilled tech workers, inexpensively, without having to disclose that they hire foreign workers.³⁵ This process is done through a third-party recruiting agency that hires the tech worker as an hourly-paid laborer. In this imbalanced labor scenario, the high-trained tech worker completes work the company needs but gets none of

³⁵ This is not meant to insinuate that companies hire temporary workers off the books, but to point out that in this political climate where companies are being asked to hire Americans first, it could be detrimental to the image of a company for the public (or the administration) to know that they hire foreign workers.

the financial, career, or immigration benefits that their work would otherwise afford them. The company, on the other hand gets the tech work they need and does not have to pay the tech worker on par with what the market would award them. Via this process, a company gets to hire temporary, high-skilled, disposable tech workers.

Participants reflected on the experiences of colleagues they have seen take temporary work. One participant mentioned a friend who has been working on contract for a big tech company for about a year without the prospect of a permanent job offer. The participant said their friend works in meaningful projects, but only completing certain tasks and without authority to direct the project or opportunities to advance in their career. This less-known route of tech work leverages the temporary status of foreign students to the benefit of American tech companies.

To be clear, contract tech work is not reserved for non-citizens only. U.S. citizens are also hired as temporary workers. However, contract or temporary work places the high-skilled but foreign tech worker on par with the support-worker who is an American citizen. Unfortunately, the limited data gathered did not reveal more about the differences between these two types of temporary workers. Further research would help explain the nuances of contract and temporary work in the IT industry from the workers' perspective. A more expansive research project could clarify and compare the different experiences U.S. citizens and foreign students face as temporary tech workers in the United States.

The Danger of Policies Hostile to Foreign Workers

Policy rooted in a xenophobic, nativist, closed-border rhetoric that demonizes foreigners is in direct opposition to the global, borderless reach of information technology. Even conservative think-thanks account that “America’s information technology companies are starved for high-skilled workers.”³⁶ Alienating and threatening the foreign workers that perform the tech work Americans cannot currently fulfil is likely to hurt the country’s position as a global tech leader. The danger of policies hostile to foreign tech workers is the decline of our own tech industry and economy.

The international students that participated in this project hoped to contribute their talents to this country. If American policy blocks their ability to do so, they will find other countries that welcome them. Below are responses from participants to the question: “What do you think politicians in the United States should do about immigrants?”

- “They need to understand that not all the immigrants are here to settle down. Most of us are here because the opportunities are in abundance. Reducing [opportunities] means lesser number of skilled workers in the United States.”
- “They should be a bit more flexible about the visa status because not only do we need to be in this country, they need us as well.”
- “Make robust policies that offer employment (hence strengthening the U.S. economy) while also offering them benefits and security.”
- “I am [here] to advance in my career. With the current administration, the most realistic option is to go back to my home country after a few years and search for

³⁶ Daniel Griswold, *Let High-Tech Workers In!*, CATO INST., <https://www.cato.org/publications/commentary/let-hightech-workers> (last visited Jan. 2, 2019).

telecom jobs there based on my degree and work experience in the United States.”

- “Be more welcoming and considerate, not enforce unreasonable inhumane laws.”
- “Literally, 90%+ students of ITP are immigrants. Americans are really not interested/motivated/do not care about this stream of studies. Who do they think are going to fill in these jobs? We are spending lot of money to receive the best education on this planet so I think it will be better if we get employed here rather than forced to leave this country.”

Even though the American technology market wants foreign tech workers, the Trump administration’s immigration policies make it difficult for bright, foreign tech students to stay. The hostile political climate pushes budding tech workers trained by American institutions to consider other countries that are welcoming and would appreciate their talents.

The Advantage of Advanced Degrees and Social Status

Facing structural rejection, whether experienced as security measures that prevent non-citizens from pursuing certain career paths or from employers unwilling to even consider interviewing international students during career fairs, participants expressed interest in other countries to launch their career. One survey respondent stated:

“I have worked for 3 years in Japan and the attitude of officials there was welcoming. Everyone wanted us to work there, work for that country. However, mostly everyone in the U.S. wants us out. I really do not understand what exactly is the problem with those people.”

A significant difference between temporary tech workers and other guest workers is that tech workers can access professional opportunities outside of the United States. By the end of their stay in the U.S., international tech students attain a highly sought-after degree that opens job opportunities in their home country. A student remarked:

“Why would I want to be a second-class citizen? My parents work for the government back home, they are respected.”

While participants migrated to the United States with dreams of leaving their mark in the tech world, the hostility they experience here is a barrier to their stay. Enduring political hostility might be even illogical when other countries offer a welcoming environment and, as a result, a promising future.

Recommendations for Administrators

During the focus group conversation, participants expressed feeling uninformed by administrators about the restrictions their non-citizen status imposes to pursue certain internships and career paths. In addition, they thought that program administrators could do more to educate employers about the ability to hire international students under the OPT program without having to sponsor their H1-B application. While the following recommendations from participants are

intended for administrators of the ITP program, they are applicable to all technology and telecommunications graduate programs recruiting international students:

- “They can help mediate with the hiring organizations on the rules and regulations on student in the F1 program. Additionally, they can also encourage organizations to hire international students.”
- “Professors and alumni can serve as the conduit for finding jobs, by talking to the respective organizations and help them understand the need to hire international students. Professors can also offer additional avenues for continuing in the student visa program by providing us with funding for higher education.”
- “[Be] open [i.e., truthful] about the kind of jobs available when we join the program.”
- “Be well versed with our rhetoric. maybe organize sessions with tech companies where they highlight the benefits of hiring international students.”
- “Keep us updated with experiences, help us network, give us a true honest look at what / how the workplace environment can affect us.”
- “[Be] more transparent about possible issues, showing assurance support with changes in rules, having conversations and understanding rules completely to make us better informed.”
- “At best they need to stand up with us against the government in making good reforms.”

IV. A Tech Marketplace *Sin Fronteras*

“A border is a dividing line, a narrow strip along a steep edge. A borderland is a vague and undetermined place created by the emotional residue of an unnatural boundary. It is in a constant state of transition. The prohibited and forbidden are its inhabitants.” – *Gloria Anzaldúa*

The data sample collected to inform this paper is too small to be statistically significant or conclusive. Thus, I encourage readers to see the ideas expressed in this section as an initial exploration of the links between technology, legal theories of citizenship, immigration law and policy, and Anzaldúan theory. My goal is to spark academic interest in the role migrants play in digital technology development and in the conceptualization of the technology market as a tool for exposing political borders as fictions.

The Tech Marketplace is Global

Information Technology creates a new digital marketplace, without borders. Further, because the digital market does not depend on physical locations to obtain labor or consumers, borders are exposed as fictions. However, the digital world remains a reflection of the analog world. As such, the borders we draw around ourselves in the analog world, accompany us into the modern digital world.

Technology work does not require a worker to be physically present at an office, manufacturing plant, or country. Similarly, consumers do not have to be physically present at a shop, restaurant, or class in order to use digital services. The almost ubiquitous presence of technology in our everyday lives and the billions of people across the world that use technology to connect with each other create a demand for a global workforce. Policies that corral work and workers around a nation-state might lose ground in a global marketplace. Success in this modern digital marketplace involves fostering a global, borderless mentality.

The Contingent Tech Workforce

A contingent workforce is made up of workers who consider their work temporary. This workforce includes independent contractors, part-time, temporary, seasonal, and leased workers not on a company's payroll because they are not full-time employees.³⁷ Organizations can hire a contingent worker directly or from a staffing agency.³⁸ Contingent workers are usually added on an ad-hoc basis to [a company's workforce](#), and work either onsite or remotely.

This type of work arrangement has become popular in the tech industry, in part because it provides flexibility and independence for both employers and employees.³⁹ However, according to the U.S. Department of Labor, contingent workers generally receive fewer if any benefits, less pay than full-time workers, and are less likely to be protected by labor laws.⁴⁰

Because tech workers can work remotely, they can remain invisible. This lack of visibility presents benefits and dangers to the tech worker. For example, one benefit is that remote and “hidden” work attracts queer and gender-nonconforming individuals that have historically been excluded from visible workspaces.

On the other hand, invisibility can also make tech workers vulnerable to exploitation. Where work is kept from the public eye, public protections may not reach. The potential for exploiting tech workers increases when they are contingent because they do not enjoy the same employment regulations that protect permanent employees.

Although the three classes of tech workers outlined in Section 1.B can all engage in temporary work, I believe support workers face the most risk for exploitation in this field. Support workers have less bargaining power as hourly-paid workers, completing tedious tasks that others don't want to do, and often working out of sight. To minimize the risk of exploitation, the IT field must recognize support workers as tech workers. The information technology field should (1) make the work and the worker visible, thereby bringing to light any potential exploitative practices, and (2) develop a full understanding of the ecosystem of workers it takes to propel the field.

³⁷ Karen Kosanovich, *A Look at Contingent Workers*, U.S. DEPT. OF LABOR, <https://www.bls.gov/spotlight/2018/contingent-workers/home.htm> (last visited Jan. 3, 2019).

³⁸ See Lizzie Widdicombe, *The Programmer's Price*, THE NEW YORKER (Nov. 24, 2014), <http://www.newyorker.com/magazine/2014/11/24/programmers-price> (article about an that markets “rockstar” programmers).

³⁹ Allan Hoffman, *Break into IT with Temporary Work*, MONSTER <https://www.monster.com/career-advice/article/break-into-it-with-temporary-work> (last visited May 11, 2017) (describing the benefits of temporary work to break into the tech world); also Sarah Kessler, *A Look at the Temp Agencies of the Future*, FAST COMPANY (Oct. 16, 2015), <https://www.fastcompany.com/3052030/a-look-at-the-temp-agencies-of-the-future>.

⁴⁰ Kosanovich, *supra* note 37.

Temporary Tech Workers as the New Atravesados

“Los atravesados live here: the squint-eyed, the perverse, the queer, the troublesome, the mongrel, the mulato, the half-breed, the half dead; in short, those who cross over, pass over, or go through the confines of the ‘normal.’” – *Gloria Anzaldúa*

“Most crucial to the agricultural growers was the need for a reserve labor pool of workers who could be imported for their work, displaced when not needed, and kept in subordinate status so they could not afford to organize collectively or protest their conditions.”⁴¹ – *Michael Olivas*

In *Borderlands / La Frontera*, Anzaldúa presents the concept of “los atravesados,” those who “go through the confines of the ‘normal.’”⁴² *Los atravesados* are trespassers. They enter territories delineated by man-made borders. Their crossing defies political power and control, exposing a border as the fiction it is. Anzaldúa points out that those in control of territories describe themselves as the “legitimate inhabitants;” citizens by law, birth, or divine right.⁴³ In these controlled territories, the borderlands, “tension grips the inhabitants” and those in power threaten the trespassers.⁴⁴

Temporary foreign tech workers are *los atravesados* of the digital borderlands. While there is a mechanism for temporary tech workers to obtain a visa that could eventually allow them to become permanent residents and citizens, the Trump Administration has threatened that mechanism. Trumpian immigration policy and rhetoric has reminded the country that immigrants, refugees, and any *atravesados* that are not full-status citizens are under heavy legal scrutiny. The *Hire American* Executive Order and scrutiny of the H1-B visa program are the legal threats the “legitimate inhabitants” wield.⁴⁵

CONCLUSION

To survive the Borderlands
you must live *sin fronteras*
be a crossroads.
–*Gloria Anzaldúa*

Even beyond tech work, the labor and markets have been fluid throughout history. All humans have migration in common. Workers, documented or undocumented, temporary or

⁴¹ Michael A. Olivas, *The Chronicles, My Grandfather’s Stories, and Immigration Law: The Slave Traders Chronicle as Racial History*, 34 ST. LOUIS U. L. J. 425, 436 (1990).

⁴² Anzaldúa, *supra* note 5, at 25.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.*

permanent, constantly move beyond borders. In this regard, workers are the permanent *atravesados* of the world. Where there is a demand for labor, there is a migrant ready.

Our nation-state based definition of citizenship is in direct contradiction to the realities of labor, migration, and the global market. Proposals for universal citizenship are often dismissed, but they challenge our antiquated notions of citizenship. They challenge us to abandon the fiction of the nation-state and embrace a global policy based on workers. Universal citizenship proposals invite us to see the *atravesados* everywhere and to build a new consciousness on the experience of existing everywhere, in spite of borders.

The digital world is literally a physical endeavor created by human hands. It is not a naturally occurring space. That fact alone gives me hope for a new consciousness around migration. I hope that the physical exercise of creating a digital world help us recognize the man-made origin of all borders around us. I hope that becoming aware of our border-creation will awaken the new mestiza consciousness that Anzaldúa augured in *Borderlands/La Frontera*.