

Commentary

Modern Indentured Servitude in the Gig Economy: A Case Study on the Deregulation of the Taxi Industry in the United States

Katina Michael

School for the Future of Innovation in Society and
School of Computing and Augmented Intelligence,
Arizona State University, Tempe, AZ 85281 USA

■ **IN MARCH 2018**, the death of Elaine Herzberg, Tempe, AZ, USA, caused by an autonomous Uber vehicle (with a training driver behind the wheel) made headlines [1]. Uber responded by suspending its self-driving program in Phoenix, San Francisco, Pittsburgh, and Toronto. The complexity around determining liability for that fatal accident demonstrates that self-driving cars have had an enormous impact in terms of completely changing the rules of engagement. For the most part, new rules are being established on the fly, without scenario planning or adequate anticipatory governance.

The Corporation, the machine, the training driver and the pedestrian

In September 2020, more than 2.5 years after the tragic Tempe crash, the human safety backup driver, Rafaela Vasquez, was charged with negligent homicide [2]. Internal driver footage was recorded of Vasquez in the moments before the crash and suggests that she was looking down at her smartphone. Police later obtained records from the streaming service Hulu, providing evidence that Vasquez was watching the talent show *The Voice* for about 42 min

until the devastating impact with the pedestrian [3]. Vasquez denied these allegations, stating she was “monitoring the self-driving system interface” which was displayed on an iPad mounted on the vehicle’s center console [4].

Automation, risk, liability, power, and the vulnerable

Given this landmark case, perhaps autonomous vehicle (AV)-based ride-sharing services of the future will simply put a human in the “driver’s seat” to negate liability. The possibility of a whole taxi fleet being switched off if the software was deemed the primary cause of a collision would be too high. It is likely that such backup driver humans would be paid below the minimum wage—maybe even less than taxi drivers earn today because they will not even be physically “driving” but simply “watching.” This precautionary arrangement could potentially save the AV companies tens of millions of dollars in litigation in the longer term as self-driving cars proliferated.

This is not the only autonomous vehicle-related fatality that has been recorded [5], but it received great attention because the woman who was killed was a pedestrian who also happened to be unhoused.

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Police authorities, Uber, and the media positioned the case as a driver versus pedestrian matter. In fact, the machine, and those who developed the machine, should have been understood as responsible.

In a corporate-spawned wave toward fully autonomous vehicles—one that is occurring amid the Gig economy unfolding across the United States and internationally—individuals, typically the most vulnerable, including racial and ethnic minorities, have been swept in to take the fall for deaths, gross negligence, and fatal errors in planning and design. Vasquez, of course, was formally prosecuted and vilified [6]. Uber, despite acknowledgment that their software failed to perform as it should have, escaped any criminal liability. In the case of those who bore the brunt of the fallout and consequences of the Uber AV crash and for Elaine Herzberg's death, the ethnicity of the safety driver cannot be dismissed. As Vasquez noted in an interview, "one day I'm fine and next day I'm the villain" [7].

No one is discounting that Uber was "at fault." But a corporation cannot go to jail, despite that the legal notion of "corporate personhood" determines that a corporation has at least some rights and responsibilities enjoyed by a natural person [8]. What is seemingly unfair is that corporate personhood allows for gross profiteering but somehow does not apply equally to responsibility.

We know that despite Uber's sensors detecting "something" in the way of the AV, the "object" (in fact, a human subject—Elaine Herzberg) was determined to be a false-positive. This occurred because Uber's engineers had worked to create a better driving experience for passengers and so made the software "less sensitive." Perhaps, the most telling part of the tragic event was that Uber had decided to disable the vehicle's factory-installed emergency braking system that would have kicked in automatically, in favor of testing its own automated driving system. As one commentator noted, "when prosecutors need a target in the name of public accountability, it is the 'servants' who often pay the price" [9].

People as dummies: The human Uber

The Oxford Dictionary definition of a "dummy" is a model or replica of a human being. That is, an object designed to resemble and serve as a substitute for a real person. I would like to propose that the manner in which humans are being treated by the chief architects of the Gig economy is as if they

were dummies. Thus, we can speak of "human dummies," despite that humans are subjects with hearts that beat, the ability to feel pain, and connectedness through social relations that come with responsibility and the need for a genuine livelihood. In 2018, the concept of the "human uber" was coined in Japan, offering a service that "would essentially allow customers to hire a living, breathing human to walk through the world in his or her stead" [10]. Only in the context of the taxi industry? There is no "direct" hire, allegedly the driver is their own boss.

Gig economy and the taxi industry

Unsustainable business model: The broken promises of Gig economy companies

While corporations like Uber pursue intensified vehicular autonomy, that which has lured so many workers to the Gig economy in the United States has been hope in the American dream through the promise of ongoing employment [11, 15 min 20 s]. In part, jobs driving Uber taxis have been made possible by a seemingly viable business model that became unsustainable all too quickly. Drivers were told they could work for a ride-hailing company like Uber, and they could choose to work whenever they wanted. But what drivers were not told upon signing up, or on leasing or buying a new vehicle to drive for Uber, is that their per mile and per minute rate would be slashed without warning, not once but consecutively. Drivers were not told that they would be left to fend for themselves if things did not go according to plan and the business model became unviable. There was no speculation that the market would become saturated, that more vehicles would be on the road than demand required, and that the existing Yellow or Black Taxis would have their medallions and taxi license plates rendered almost worthless as a result of a deregulated taxi and limousine market [e.g., New York City (NYC)]. Figure 1 provides data showing the impact of ride-hailing services on the demand for Yellow Taxi Cabs and the corresponding value of medallions.

Taxi drivers operating at a loss and living in debt bondage

According to driver self-reporting, if you are working for Uber in Florida, Arizona, Indiana, or Oklahoma, for example, where incumbent Yellow or Black Taxi Cabs are still widely in use, then you are

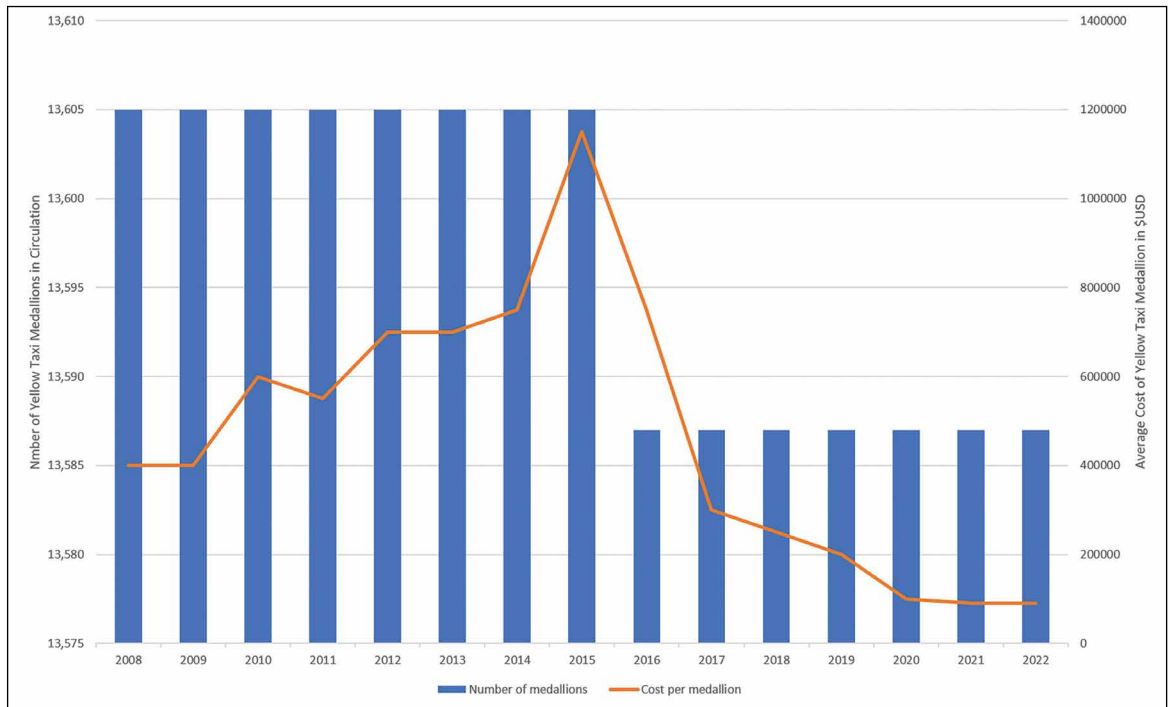


Figure 1. Yellow Taxi medallions in New York City (2008–2022).

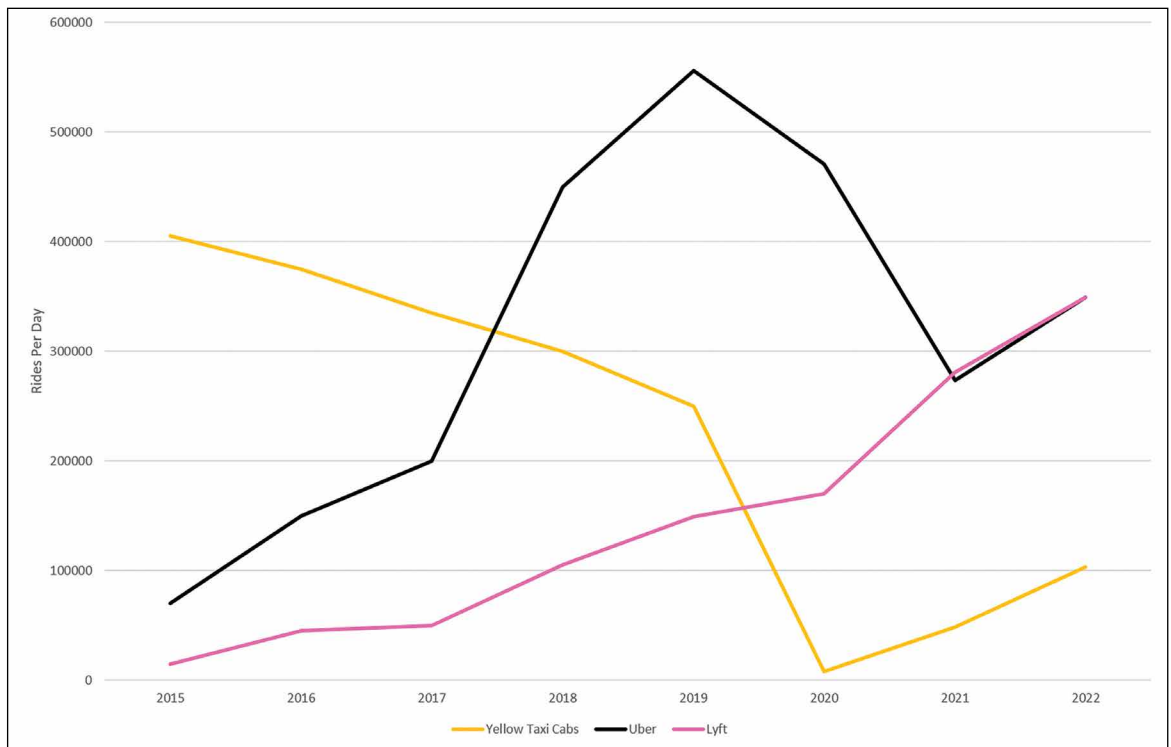


Figure 2. The impact of ride-hailing services on Yellow Taxi Cabs in New York City (2015–2022).

earnings somewhere between \$0.54–\$0.56 per mile and \$0.08–\$0.10 per minute [12]. These numbers are debatable and have been anecdotally reported as being even lower. According to one website, the average Uber driver's hourly pay in Phoenix is approximately \$12.81, which is 18% below the national average for Uber taxi drivers U.S.-wide [13]. Some drivers are self-reporting that about half of that number is a more accurate hourly estimate when one considers that cars do not run on empty tanks (especially given the rising cost of fuel), that some cars are lease vehicles, that back-to-back rides are becoming more and more difficult to secure with rising numbers of unregulated taxis vying for the same customer base, and considering rising car insurance premiums, not to mention depreciation as linked to the daily wear and tear of a vehicle if owned outright (see Figure 2).

An unexpected car accident to any ride-hailing driver today whose sole income is as a driver can be financially catastrophic, and if coupled with illness, such as long-term COVID, can be irrecoverable to the point of continual loan refinancing. And for taxi drivers in similar situations it can mean imminent foreclosure, foreclosure (i.e., medallion repossession), or bankruptcy. Some websites claim that if you work for Uber in Phoenix, then you can earn on average \$41,639 per annum, 1% below the U.S. national average income for Uber drivers [14]. These numbers might be possible if a driver doubles their work hours and chooses to be on the road for 12–16 hours a day, seven days a week, and importantly, if they own their own vehicle. But that is no way to live. The choice to work is illusory: to all intents and purposes, that is being enslaved. One driver posted on October 19, 2020, “Can anyone else tell me how they are going. I’m working nearly 12 hours every single day just to make 150-ish a day. I’m on the verge of losing everything. Between car rent and food, I have nothing left and that’s not even paying tax” [15]. Many drivers shifted to delivering food during the pandemic (e.g., Uber Eats) as business was down for taxi services due to lockdowns worldwide, and others suggested diversifying by adopting multiple apps as required to boost income.

When Uber began its promotional advertisements for drivers, they implied in television commercials that representative ride-hailing trips could earn the driver as much as \$80–\$432 and noted that the average car was not a car but a “four-wheel

money-making machine.” Uber encouraged people to “get [their] side hustle on,” above and beyond their day job [16]. According to Andy Gonzalez, an NYC driver, Uber slashed their rate, “not only once but two times. So just to give you a comparison, the rates that we have now, are less than half of what we used to have... actually? They are less than a third” [16, 26 s]. That Uber drivers never really get to see the “real” consumer price charged was dubious from the very beginning. As reported by PBS.org, given the influx of “for-hire vehicles” in NYC from 50,000 in 2011 to 130,000 in 2018, about one-third of ride-hailing vehicles in Manhattan are unoccupied during daytime hours. Furthermore, Uber and Lyft dual taxi driver Gonzalez noted, “you can go 30–40 minutes without a passenger, and when you do get somebody, you’re driving 7 minutes to get them, and the ride will only be like \$6. So you just spent 1 hour and 20 minutes and you make \$6 minus your gas, so you are really operating at a loss” [16, 1.40 min]. This is a far cry from Uber’s initial advertising campaign that stated, “earnings of \$5,000–\$6,000 per month guaranteed” [17, 2.46 min].

Driver depression and suicide: “I am not a slave and I refuse to be one”

The truth of the matter is that no one should be driving 12–16 hours per day. The physical toll on the body is too much, causing chronic lower back pain and other medical conditions, and this does not take into account the psychological toll it takes to drive for that time frame every day without the ability to stop, eat, and take bio-breaks [18]. Since the original disruption of ride-hailing companies on traditional taxi and limousine offerings, individual drivers on both sides have been struggling, not only to somehow make ends meet, but also with their own mental health. In the first half of 2018, eight drivers in New York alone suicided [19], [20]. One taxi driver, Douglas Schifter, who was a victim of economic disruption and took his own life in front of City Hall, left a 1,700-word note on Facebook [21] on February 5, 2018, pronouncing, “I cannot survive any longer with working 120 hours! **I am not a Slave and I refuse to be one**” [emphasis mine]. He wrote furthermore:

“Companies do not care how they abuse us just so the executives get their bonuses... Due to the huge numbers of cars available with desperate drivers trying to feed their families, they squeeze

rates to below operating costs and force professionals like me out of business. They count their money, and we are driven down into the streets we drive, becoming homeless and hungry. I will not be a slave working for chump change. I would rather be dead.”

Schifter’s death sent shockwaves through the community of NYC taxi drivers [22], [23]. The names of the other drivers who took their own lives were Abdul Saleh, Alfredo Perez, Danilo Castillo, Fausto Luna, Nicanor Ochisor, Roy Kim, and Yu Mein Kenny Chow. Each had their own story to share, and their own families to provide for, but it all became too much.

In another distressing interview with a surviving taxi driver who “won” one of the last medallions sold in 2014 in NYC for a whopping \$853,786 we learn about predatory loan shark agreements on vulnerable migrant workers. Investigative reporter Brian Rosenthal and Emma G. Fitzsimmons, who specializes in transportation for *The New York Times* [23], blew the cover on some very shady dealings, at a time when medallions were plummeting in value and yet still being sold. Mohammad S. Hossain, unknowingly entered into one of these agreements to repay \$717,000 in just three years and just six loan repayments, when his annual taxi earnings were just \$25,000. Asked by Rosenthal in 2018 why he had not filed for bankruptcy yet, Hossain replied with broken English and a dejected spirit:

“I bought medallion from the City, I thought City will help me, you know... I know so many drivers, they kill themselves. But I have a family, I love my family. So I don’t want to kill myself. My life is more important for my family. I love my family, [more] than medallion” [16, 5 min].

City Hall, regulations, and the Taxi and Limousine Commission

As reported by Hari Sreenivasan and Laura Fong for PBS.org, the City’s response to this in 2018, presented by the City Council speaker Corey Johnson was:

“[w]e are trying to come up with a data driven sound public policy package that still allows consumers and customers to get what they need while at the same time balancing the other issues that are being affected because of the explosive

growth. The government deserves some blame on this because we created the medallion system which had its own problems with not meeting the needs of many customers around the city where you had this disruptive technology, which met that need, devalued the government set up system. And over the last many years we didn’t create a regulatory framework to figure out parity or fairness in the industry which has caused this dramatic upheaval” [24].

The acknowledgment came too late for many drivers living in poverty, and any actionable measures lagged too far behind. By 2020, the New York City Taxi Commission had been accused of \$810 million in fraudulent behavior [25]. One taxi medallion driver, Augie Tang, noted, “New York City knowingly inflated the taxi medallions and made \$850 million off of these sales” [26, 5 s]. By 2021, a new class-action lawsuit had been launched against NYC officials demanding \$2.5 billion in restitution for Yellow Taxi Cab drivers [27].

One Romanian migrant taxi driver in NYC, Nikolae Hent [28], who gave evidence to the Taxi and Limousine Commission tried his best to find the words to sum up the unfairness of the emergent context posing the conflict as the “Yellow Taxi Cabs versus ride-hailing services.” He told the NYC Taxi and Limousine Commission on April 6, 2017, before being cut off for reaching his 3-minute time allocation to speak:

“Why I’m here, I’m supposed to be on the streets?... I am here because of you. You took my money... either all the taxis should... [cost] a million or all of them free. It’s your power to rule and to make the law... Because I never can compete with people who have a free license. Competition is good for consumers but it has to be fair and square... I am sick and tired to have millions rules on my back and others have no rules. Why is that? I am shaking because I’m so mad. I cannot cry, I never cry in my life, not even when I was 6 years of age and my father lose everything he had in Romania to the communists. We create new communism here protecting Silicon Valley... to steal what other people pay?... I was forced to dump five cars within 5 years not even 200,000 miles because of your rules... Now you give me one more extension for 1 year? For what?” [29, 4 min].

Modern indentured servitude

As the community began to mourn even more losses from its taxi and limousine ranks, workers banded together through the New York Taxi Workers Alliance union led by one of the founding members Bhairavi Desai [30]. An awareness-raising campaign over the plight of the taxi worker was conducted, and people began to speak out against what has been referred to, in this special issue, as “modern indentured servitude” with scant use of the term by the media, taxi unions, and just a few advocates [31], [32]. By terse definition, this is not a form of “modern slavery” [33] but more precisely, “modern indentured servitude” is about unpaid workers living in poverty, and what is known as “debt bondage” in the context of the tertiary sector today, that is, the services industry [34], [35]. In some earlier modern representations of “indentured servitude,” construction workers in Dubai, responsible for building the most breathtaking architectural marvels in the City of Gold [36], were secretly filmed by *VICE* and featured in a short documentary, pleading for their freedom and being allowed to get back to their families abroad. The utter paradox is the prevalence of indentured servitude in the world’s richest nations and richest companies which can only point to greed [37]. One Bangladeshi construction worker in Dubai, in 2012, broke down crying:

“There is nothing for me. I’ve borrowed from other people to buy food. It’s been five months, and he has not paid me at all. I have begged for food or remained hungry. Somehow or other, I’m surviving. My wife and children tell me to send some money or come back. Where will I go?” [38].

Modern indentured servitude is now occurring in a number of verticals in the Gig economy. It is a civil rights and human rights matter and it pertains to a form of human trafficking, taking advantage of persons who are vulnerable with respect to employment needs. We see this in domestic workers like servants and maids [39], [40], among many other fields. However, the term is now beginning to be applied elsewhere, for example, with reference to student loans as a “modern form” of indentured servitude [41].

Spiraling into poverty, homelessness, and sleeplessness

As people began to sink deeper and deeper into debt as a result of the impact of COVID-19 on the

demand for taxis, loan repayments for traditional taxi medallions or weekly Uber lease vehicle costs became impossible to pay back. For example, according to *The Guardian*, the average debt on a NYC taxi medallion in late October 2021 was about \$600,000 with the average monthly repayments around \$4,000 [42]. No matter how long one was out either driving or waiting to secure a ride, even if a driver went without sleep for 24 h, revenues could never surpass the operational costs, inclusive of one’s labor. It is not uncommon for some ride-hailing drivers to live in their cars at least for part of the week to make ends meet. Terri White, believes it is a lifestyle choice for her, allowing her not to be stuck behind a desk. She chooses to leave her home in Stockton, CA, USA, and drive 83 miles to San Francisco [16]. She also chooses to sleep in her car for a few days in a row, heating up her food at gas stations. While Uber allows drivers to work more than 14-hour workdays, competitor Lyft does not.

Anecdotal evidence from Tempe, AZ, USA, for example, demonstrates the dilemma for many individual taxi drivers who rented a vehicle from the Yellow Taxi Cab company at \$260 per week in 2018. At a cost of \$7 for seven miles of which the Yellow Taxi Cab would also take a commission for that ride, it does not take long to calculate what is possible in any 10-hour driving period. Some workers purportedly only made about \$50 a day “cash in the hand,” some have publicly reported that that figure was much less. Now if that figure is multiplied over seven days, it is at best \$350, minus the cost of the taxi rental, leaving the driver with some \$90 for their total living expenses. When the author of this article asked people “why they drove,” the response was always akin to “because even if I make close to nothing, I can tell my kids I have a job.” But is this what we should be teaching the next generation? These drivers feel stuck, like there is no way out of the cycle of poverty, and do not know how they will break with this cycle given the daily demands.

The scenarios are similar for up-market vehicles in NYC leased from Uber at about \$500 per week. Plummeting customer demand for taxis, meant that lease vehicles became impossible to repay and there was no “escape clause” in the contract. About 80% of app-based drivers in NYC have acquired a car to participate in the ride-hailing business [43, 2 min 29 s]. “Abraham,” a person of color and a father of four, is one such Uber driver who reflected sorrowfully:

“I’m hungry, I’m sad... we’re making probably \$5–\$6 an hour probably... how can it be a \$60 billion company don’t take care of the people ... We make you rich, you make us homeless” [44, 1 min].

Abraham showed evidence of working 63 hours and 25 minutes in a single week and only made \$350.16 and of that Uber took \$262.01 in fees toward the leased vehicle, having not met the weekly repayment. Bhairavi Desai who has spoken on the rights of the NYC Yellow Taxi Cab drivers summarizes all of this as setting a horrible precedent for millions of workers both in the United States and beyond. Desai is right in her summation that there must be a minimum wage of \$15 per hour for these taxi workers, otherwise we are diminishing one’s right to a living wage.

For many years, only minor accommodations for taxi drivers were made, with some sporadic hardship packages being offered by City Hall in New York. It was not until November 2021, when many workers became so desperate that they went on a hunger strike for 15 days and that the New York City Taxi and Limousine Commission was finally forced to act to implement a more significant rescue package for drivers toward debt relief [45]. Marblegate purportedly reduced all NYC taxi medallion driver debts to a \$170,000 cap, with the city also contributing \$30,000 [46]. In a crazy twist to an almost unbelievable story, in March 2022, Uber added 14,000 Yellow Taxi medallion drivers of NYC to their Uber app [47]. The real question is how this latest “gesture” has improved the situation of *all* drivers? It just seems to be more of the same, further disruption, with drivers still not any better off than they were before the Uber announcement. Devastatingly, and on reflection, did so many thousands of taxi drivers have to go through this anguish and ordeal?

But there is a more significant reason that no one cares to answer this and many other questions. It is that before too long, Uber is betting they will not need any more “human drivers.” They will just need “human dummies” or “human ubers.” The case of Rafaela Vasquez in Tempe, AZ, USA, was inevitable and has set a precedent. As I reported back in 2016, in an editorial titled: “When Uber Cars Become Driverless: ‘They Won’t Need No Driver’” [48], the debts can keep rising. The drivers can keep wishing to drive longer hours and earn more money, and

the apps could amalgamate all human taxi driver plates/medallions together, because the Gig companies are betting that the self-driving industry will take off—at least that is what they are praying for, to evade going bust themselves [49]. In other words, BigTech can come in and wreak havoc with an indirect takeover of the medallion system, while driving their own stock up and creating a new monopoly, squeezing the incumbent out. Now that is some form of disintermediation.

Racial justice, discrimination, accessibility, and civil and human rights

As we wait to see how the future will pan out, we seek to learn why the number of drivers that tend to wheelchair accessibility needs is still low. In 2013, only 231 vehicles in NYC could accommodate wheelchairs out of the 2,000 taxi medallions available, and after a very public court case based on a discrimination lawsuit, the city of New York promised in a settlement that “half of its 13,000 yellow cabs [would be] handicap accessible by 2020” [50]. Today, in 2022, the number of cabs with wheelchair access has again declined due to the current state of the taxi industry. Few drivers are willing to go the extra mile of having a wheelchair-accessible taxi because the extra effort required for this type of service provisioning is not remunerated, but instead, penalties apply for late pickups and more [51]. The end result of all of this is that NYC’s disabled people are becoming increasingly underserved.

What are we left with? A civil rights and human rights crisis to a select group of people—91% of whom are migrant taxi drivers in NYC [31, 5 min]. People who purportedly “have full-time jobs” but likely feel like they have been handcuffed and awaiting a life-long sentence. Is this any way to live a life? In response, we demand debt forgiveness and at least minimum wages. The human drivers in all of this, most of whom were born outside the United States, are the collateral damage, and no one seems to care but the families of those who have been enslaved.

Taxi wars are renowned. They did not start when Uber entered the market in NYC in 2011. They began in 1934 [52]. A visual recording of the first major taxi riot and strike in NYC was captured on film [53]. One commentator wrote: “[t]he driver market was flooded with desperate men looking for work ... Taxi salaries plummeted... On February 5, 1934, the strike

spiraled out of control, leading to violent confrontations across the city between drivers and police.” In many ways, what the taxi drivers were fighting for back then closely mirrors what they are fighting for today. Ironically, it was that initial riot that sparked the Haas Act passed in 1937 which was responsible for creating the modern medallion system, stabilizing the number of plates issued to under 14,000.

Today, we have a disrupted and deregulated market. So what is really different about what has played out over the last 5–10 years across cities not only in the United States but the world? The ride-hailing companies claim they have brought superior services to the market and have digitally transformed the taxi industry, with customer wait times slashed as a result of location-based apps. Whether that is true or not, there has been a major crisis unfolding right before us and we are only starting to pay attention to it now. The regulators just keep raking in the commissions from the traditional drivers and new ride-hailing drivers, and the mayors, who have the power to do something about it, allow hard-working people to suffer.

Uber has always claimed it is a technology service provider and not a transportation company [54]. It has also claimed it does not have employees [55]. These are two lies that have been perpetrated by the Gig economy at every turn. The state of California has ruled otherwise [56]. If the “future of work” as affected by “automation” was so easy to address, then why are so many innocent people (e.g., taxi drivers), many of whom belong to vulnerable communities, still enslaved [57]? And why are so many Gig workers condemning unsafe and grueling conditions at their respective workplaces, e.g., at Amazon [58].

We see here that the consequences of automation as applied to the taxi industry, and as playing out in the Gig economy, have meant that the vulnerable can become even more vulnerable. These impacts resulting from the Gig economy are inclusive of: limited or no worker rights, low wages and the accumulation of major debts that cannot be repaid, unforeseen supply and demand issues, corporate irresponsibility, rapid deregulation, poor public policy responses, and much more. These injustices have caused many people anxiety and distress, loss of financial stability, and a diminishment of livelihood to varying degrees. Among the dire human impacts on Gig workers are ongoing penalties related to loans, loss of housing

and health insurance, illness due to long working hours to make ends meet, limited quality time with families, depression, and even suicide. In striving to understand why modern indentured servitude exists today—despite Article 4 of the Universal Declaration of Human Rights which states that, “No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms” [59]—we keep returning to one fundamental reason: greed and the absolute disregard for the person.

On the future of work: “I hope you listen to me”

We all agree that automation is good but at what cost? As we ponder on the lessons learned from this case study on the taxi industry in the United States, as it relates to “modern indentured servitude,” it is important to remember the human toll; all anguish is a personal experience despite that there is shared common grief. While mothers and fathers were working inhumane driver hours to make ends meet over the last decade in NYC, children grew up without quality time with their parents and the elderly went without their caregivers. This time can never be reclaimed again, nor can the marriages and friendships that broke down as a result of financial pressures and mental health challenges. Stakeholders must realize their actions do not just affect the medallion drivers, and the Uber or Lyft drivers, nor the families of these drivers, but all of us. How will we better navigate the future of work transitions? Citizen workers who had hoped to retire at 65 or send their children to college with the medallion in hand were forced to continue to work well into their 70s, and some children missed out on tertiary education as a result. The damage has been done. The blows have been dealt. They generate echoes for generations to come. The burden is carried on.

If you have got to this point in the article, I urge you to listen end-to-end to the hearings presented by drivers—real human beings—who have suffered at the hands of the New York City Taxi and Limousine Commission, City Hall, and BigTech [60]. In these oppressed voices, you will learn much about humility, perseverance, hope, affliction, and the human spirit. And if you listen very carefully, you might hear the voice of the migrant, the black man, the Sikh man, the woman, the caregiver, all of whom have felt powerless against the tyrants. As the YouTube title describes in the header, the stories are

“gut-wrenching.” One medallion driver noted, just “take the gun and shoot us.” Another man of color said that what had happened to the NYC taxi industry was a form of “vampirism” and that the “bloodsucking” was happening by the TLC and the app-based companies. Another noted how he had been crying for the last three years but never felt listened to and that “power” makes one-sided decisions. Another pleaded “There is no future... There is no life” and yet the yellow cabs were supposed to be the heart of the city, acting as ambassadors for NYC. One man of retirement age who had suffered a heart attack and was on kidney dialysis was still driving despite his frailty. Can’t we see this is wrong?

WHAT TO DO about all of this collective pain? Was this all for nothing? What lessons do we take away to avoid future crises and catastrophes [61]? What was the real human impact? I do not want the reader to leave this special issue feeling the situation is hopeless. Better design of socio-technical systems will reduce harm and minimize risks. It must be done in earnest by government and commerce and by the people if we have any hope to avoid future scenarios like that which befell the taxi industry in cities of the United States and beyond [62].

How might this situation have been averted to begin with? What kind of safeguards might have been instituted through the use of scenario planning and anticipatory governance? No one is claiming that technology should not and cannot forge ahead, but how could this innovation be better managed responsibly? We can point to better public policy, but not that which comes “after the fact,” but that which can be continually refined in policy sandboxes to ensure the least negative impact on every day workers when change actually occurs [63]. Workers engaged in platform labor just want a fair go at earning a decent income, like everyone else in the labor market. Communication here is the key enabler, keeping close to the community and listening for early warning signs, propelling new interventions forward. ■

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Katina Michael is a professor in the School for the Future of Innovation in Society and the School of Computing and Augmented Intelligence, Arizona State University, Tempe, AZ, USA. Michael is a Senior Global Futures Scientist with the College of Global Futures, and directs the Society Policy Engineering Collective at Arizona State University. She is a Senior Member of IEEE.

■ Direct questions and comments about this article to Katina Michael, School for the Future of Innovation in Society and School of Computing and Augmented Intelligence, Arizona State University, Tempe, AZ 85281 USA; katina.michael@asu.edu.